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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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MEASURING THE EARTH.

The longest distance encompassed by the human vision, so far as the records go, is 183 miles, between the Uncompahgre Park in Colorado and Mount Ellen in Utah. This feat was accomplished by the surveyors of the United States Coast and Geodetic survey, who are now engaged, in conjunction with representatives of other nations, in making a new measurement of the earth. The observers on the Pacific Coast have been able to signal from Mount Shasta to Mount Helena, a distance of 190 miles, but have never been able to get a response. Between the other two peaks communication has been continuous for an hour or more on several occasions. The Uncompahgre Peak is 14,300 feet in height, while Mount Ellen is 13,400 feet. The longest distance that the human eye ever reached until this record was made, was between Algiers and Spain, a distance of 168 miles. The measuring of the earth which is now going on is no simple task. The width of the ocean can only be ascertained by astronomical observations. The observers at Greenwich and at Washington note each night the exact moment of the rising of certain stars, and then, by mathematical calculations, turn this difference in time into distance. The result is corrected and corroborated by further observations upon other stars, and by a series of experiments which furnish an average which is approximately accurate. The difference is seldom more than a small fraction of a second, and is attributed to atmospheric phenomena. The Pacific Ocean is measured in a similar manner by joint observations with the Lick telescope in California and that of the Imperial University at Japan at Tokio.

VESSELS CLASSED.

The American Shipmasters' Association have classed in the Record of American and Foreign Shipping this week the following vessels: Portuguese schooner Carlota, American four-masted schooner Charles G. Endicott, bark E. C. Mowatt, schooner M. S. Dowling and screw-steamer Professor Morse.

THE FRENCH SHIPPING INDUSTRY.

A gentleman with a turn for figures has been showing how the French shipping industry, which in 1880 ranked next to the British, has since then been pursuing a steadily downward course. In 1890, France, as a shipping power, had fallen to the sixth rank, and now they occupy ninth place, Russia, Sweden, and even Greece possessing more tonnage than France. Since 1880 the tonnage of English steamers has increased by 57 per cent. that of Germany by 107 per cent, while that of France has shrunk by 1 per cent. In the China Seas France only counts 26 vessels against every 1,000 British, and every 400 German ships.

THE CHICAGO SHIP CANAL.

The Chicago drainage canal, which will be completed early in 1898, with the accompanying improvement of the Des Plaines and Illinois Rivers, will open a channel fourteen feet in depth and 289 miles in length from Chicago to the Mississippi River. The canal itself has a minimum top width in rock cut of 162 feet, a depth of 22 feet and a maximum current of two miles an hour. It will cost \$29,000,000 and \$20,000,000 are required for the improvement of the two rivers. All the sewage of Chicago will be turned into this new channel, and in order that it may be less offensive, it is to be diluted with a minimum of about 16 times its volume of pure fresh lake water, which, together with purification by bacterial and aeration influences, and its diffusion of the Mississippi, 135 times as great it is hoped, will make it harmless and inoffensive on its 1,600 miles course to the Gulf of Mexico. The canal will be available for ship navigation, and Chicago expects to derive from it a possible revenue from the traffic of more than 20,000,000 tons of annual shipments on the lakes which would thus be connected with the commerce of 25,000,000 people who live in the Mississippi Valley and along its 15,000 miles of navigable tributaries.

IMPORTANT JUDGMENT.

At Newcastle-on-Tyne Assizes, judgment has been given in a case of considerable importance to shippers of grain. In this case the plaintiffs, the Kate Thomas Sailing Ship Co. sued A. G. Rudd & Co., corn merchants, Stockton-on-Tees, for detention of their ship. The vessel unloaded 3,537 tons of Pacific Coast wheat in Tyne Dock which she had brought from Portland, Oregon. The plaintiff's contention was that the North Eastern Railway Co., the owners of the dock, took their orders from the defendants, and only discharged as much per day as the defendants wished. Seven days' detention was claimed. The defendants' case was that if there was any delay it was not their fault, the custom of the port being for the ships to be unloaded by the North Eastern Railway Co. Mr. Boyd, Q. C., was for the plaintiffs, and Mr. Scott Fox and Mr. Craig for the defendants.

Mr. Boyd said the case was a test one so far as the plaintiffs, at least, were concerned, their allegation being that the vessel was discharged at a slow rate in order that small parcels might be sent out to meet orders received from the defendants' customers. The charter-party stipulated: "The vessel to discharge afloat with dispatch, according to the customs at the port of dis-

charge. Cargo to be delivered at ship's tackles." The shipowners prior to the commencement of the discharge claimed that the vessel should be discharged at a rate of not less than 250 tons per day. The receivers answered that the cargo would be discharged in accordance with "the custom of the port." The ship, was, in fact, discharged at the average rate of 169 1-2 tons per day. Hence the proceedings in court.

After hearing the evidence and counsels' statements the judge gave verdict and judgment for the plaintiffs.

THE DAMMING PROJECT.

G. W. Blasdel, of Waverly, O., who claims to be the originator of the idea of damming the rivers for the purpose of regulating the lake levels, says in a recent interview:

"As far back as 1880, I wrote for the Ohio State Journal an article advancing this theory. Six months later I had another in the Chicago Tribune. This was followed by a series of articles written by me to the same effect for the Buffalo and Cleveland papers. The engineer corps was at first loth to take it up, and I had much difficulty in my attempts to convince the officers to whom I talked on the subject. The first civil engineer to adopt the idea was George Y. Wisner, of Detroit. He has stuck to it ever since, and is now one of its strongest advocates. The late Gen. O. M. Poe never agreed with me, simply because he misconceived my purpose. He thought I attempted to entirely raise the levels in the rivers and lakes, whereas my plan only contemplates doing that work to a certain extent; and where it falls short, the engineers are to step in with their time honored plan of excavating the channels. I may say, now that many of the army engineers fully agree with me, and it is my opinion that time will see it worked out. If the government does not wish to go to the expense of spending hundreds of thousands of dollars on the actual work, let it, at a comparatively small cost, construct models and experiment with them a few months. That will prove it.

"Although I am a farmer and trader by occupation, and have never had practical experience in mechanics, I have made the subject a thorough study for nearly twenty years, and am as firmly convinced that it is entirely practicable as if it had been already tried."

A Tokio journal is responsible for the following account of Russia's gigantic scheme: Vladivostock being the terminus of the Siberian Railway is a most important port in Russia. Notwithstanding this fact, over four months, during the cold season, the port is blocked up with ice and the shipping traffic is entirely impossible, and therefore the railway will lose much of its advantages. The Russian authorities have been endeavoring for many years to conquer nature, and some years ago ice-breaking ships have been introduced to break open the ice, but it has been found that the operation is practically useless. But Russia is a large country. A certain engineer has hit upon the rather wonderful idea of reclaiming the narrowest part of the Tartar Strait between Saghalien and the Russian mainland. He is of opinion if this is done the cold current that enters the Japan Sea from the Arctic via Bering Straits, will be checked and the passage of the warmer tide coming from the south through Tsushima Strait will make the water on the coasts of Japan as well as Vladivostock warmer, and the latter will be open all the year round. This scheme was presented to the Russian Government for approval, and it is now engaged in its investigations. There is a probability of this piece of smart engineering being entered upon after the completion of the Siberian Railway. So adventurous is Russia.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to the Marine Record.

At the floating dry dock the steamer John Hopkins was on the dock for a new wheel and re-calking bottom; the sloop yacht Rambler for bottom calking.

J. J. Rardon & Co. chartered the steamer City of London, for corn to Buffalo at 2c. The steamer Progress, flax seed to Buffalo at 2 1-2 cents; steamer Aragon, corn, to Kingston; the steamer Rappahanock, wheat, to Buffalo at 1 7-8 cents; Algeria, corn, to Buffalo, at 1 3-4.

The fine steel steamer Yale arrived here, Sunday morning, at 5 o'clock, loaded with 174,500 bushels of corn at the St. Paul Elevator, and was out on Lake Michigan soon after 5 o'clock the same evening, on her way to Buffalo. She was drawing 17 feet 3 inches aft, and was towed down the river by the Dunham Towing Co.'s tug, Masher, without any difficulty.

We have gone back this week on our two-cent rate for corn, because the freight market was overborne with tonnage. With the close of the coal miners' strike and up cargoes plentiful rates will come back next week, and they ought to go to 2 1/2 cents before the close of navigation, especially is this so because coal, iron ore and the grain crop must be rushed from this on or suffer railroad charges.

The Lydon and Drews Dredging Co. have let a contract to E. W. Heath, shipbuilder, Benton Harbor, for the hull of a new tug, which is to be a duplicate of the tug D. T. Helm, built by E. W. Heath, for the V. O. T. Co., of Chicago. The new tug will have the machinery of the tug A. G. Van Schaick and a new boiler with plenty of steam. Mr. Heath recently built the fine tug Wm. McCarthy for Lydon & Drew.

G. W. Cook & Co. chartered the steamers Bannockburn, Rosemont and S. J. Murphy, and the barges Minnedosa, Melrose and Winnipeg for corn to Kingston, at 3 1-4 cents; steamer Appomattox and barge Armenia and steamer G. G. Hadley, corn, to Buffalo, at 2 cents; barge Crete, clipped oats to Fairport at 1 5-8 cents; steamer Western and consort Bliss, lumber, Manistique, to Chicago, at \$1; steamer Samlac, lumber, Cheboygan, to Chicago, at \$1.12 1-2.

The old schooners Moselle and North Cape were towed out into Lake Michigan, Monday night, and burned to the waters edge. They were the principal attraction in a sham battle with the pirate steamer Thistle, which captured and set fire to them. The Chicago Journal took out a large party on the steamer Christopher Columbus, to witness the fight, and several other passenger steamers and tugs were in attendance. Several hundred thousand persons who attended, at Lincoln Park and along the lake shore to view the proceedings, met with disappointment, as the engagement took place too far out in the lake to be seen from the shore.

At the shipyard here, the steamer J. H. Mead was in dock for bottom calking and a new rudder stock. The steamer Ivanhoe received two new iron plates on her bottom, some repairs on deck and had her bottom scraped and painted. Hogan Transfer Co.'s canal boat No. 2 received four new planks on her bow, some new wales and calking all over. Canal boat No. 4 eight new planks on her bottom, some new frames and calking all over; the canal boat Hudson received four strokes of plank all around, some repairs to stern, new wales, part new deck and recalking; the schooner George Sturges is in for recalking and painting bottom.

The schooner George Sturges, Captain Ed. Fitch took on a cargo of 31,000 bushels of corn for Port Huron, on Wednesday, and was towed down to the north pier in the evening, intending to tow with the steamer Sachem, when Capt. Fitch discovered she was leaking. Her pumps were kept going all night, and Thursday morning she was towed to the Fulton Elevator and 18,000 bushels of corn was taken out of her, and she was then towed to the dry dock. When she goes out of dock the remainder of her cargo will be elevated. The Sturges was sold, Monday, to Capt. Adolph Fritsche, of Milwaukee, and others, for \$10,000. She was built in 1872 and is one of the finest and best schooners on the lakes. She has been owned for a number of years by Edward E. Ayer, of Chicago. Capt. Fritsche intends to fit her out to carry 300 passengers to the new gold fields at the Klondike. She is to start from Chicago about October 1st, to the Gulf of St. Lawrence, the Atlantic Ocean around Cape Horn, north on the Pacific ocean to the Yukon river, where he hopes to arrive in April next.

BUFFALO.

Special Correspondence to the Marine Record.

The large steamer Thomas Palmer went into dry dock this week for overhauling and to be repainted. The Byron Whitaker is also booked to receive a new wheel.

The new tug America, built at the Union dry dock for Erie, is a fire-boat also, and a late test held there shows that she has great water-throwing capacity. Two shore engines were put on a single line of hose against two of hers, but she threw water sixty feet higher than they did. In throwing four two and one-half inch streams she was fully up to them.

Coal cargoes is this week almost an unknown quantity, and what does go forward is at the miserably low freight of 20 cents. Fuel is out of the question, and while a little

anthracite is moving there is no bituminous to speak of. The situation is no better at Lake Ontario ports, and unless the coal miners strike is soon settled it will greatly affect marine transportation.

We are getting all of the grain we want this week, and I can report the arrivals of over three millions bushels in one day, which is a pretty fair jag for one port to take care of. Cargoes were discharging at eleven elevators, and all receipts are being handled with dispatch. Buffalo is the greatest receiving port for grain on the lakes, and her facilities are such as to expeditiously handle all that is imported.

The old schooner Porter collided with the Canadian steamer Fern, anchored near where the sunken steamer Grand Traverse went down on Lake Erie. There are no particulars given regarding this collision, and the steamboat inspectors should look into the causes which led up to the casualty. The Record is a sticker for these inquiries, and this is a case in point.

Figuring is being done here this week on a new lumber barge to carry a million and a quarter feet. If this is not a ship in disguise! I would like to know anything on the Atlantic or Pacific that ordinarily carries more, unless specially built for the trade. Connelly Bros. are doing the figuring for the lumber king, Angus Smith, of Algonac, such is the report. Angus Smith, could, no doubt, do better by building in St. Clair river, where he is at home, and they have put up many good vessels, barges, etc., in that vicinity.

DETROIT.

Special Correspondence to the Marine Record.

Quite a fleet of vessels start out this week on their first trip of the season. The way freights have ruled there was nothing in it to start out earlier. Now, rates are inclined to pick up some and even moderate sized tonnage may clear expenses.

Fuel is more than scarce here just now and is quoted at \$3 per ton. It can be had and the fueling companies are doing their level best to take care of their patrons, but it is hard scratching to keep enough on hand to meet all requirements.

The wrecker Favorite released the steamer Iosco, ashore on Bois Blanc Island, on Tuesday. The steamer at once resumed her voyage, and apparently is little damaged. The Favorite, with steam pumps, lighter and a gang of men, then went to the Egyptian, ashore on St. Helena Shoals, and released her with but little loss of time.

Capt. Leon is mad about the Iron Duke running him down in the river Wednesday and will endeavor to collect all expenses from the offending vessel, the O. Neill, which was lightering the cargo from the Nelson Mills, and suffered severely, according to the shore way of putting it, and there was no excuse for the steamer running into the John O'Neill, according to all reports.

It is the opinion of a well known engineering authority here that one reason for the maintenance of a high level in Lake Superior for several years past is the construction of bridges and locks at Sault Ste. Marie, which act as a check to the flow of the water through the St. Mary's rapids. Of course no one can doubt this assertion and we will later have bridges, locks and docks throughout the connecting waters of the lakes.

Ashley & Dustin announce that their boats will make the usual Sunday trips, but, that, beginning on Monday, the Wyandotte will discontinue the morning trips, continuing, however, to leave the dock every week day at 4 o'clock, bound down, and leave Amherstburg every morning at 7 o'clock bound up. On Saturdays the downbound trip will extend to Sugar Island, and the boat will return the same night to Detroit, so as to make a round trip on Sundays.

A big fleet was delayed by the dense fog in the river, on Tuesday morning. The Nelson Mills ran aground at Sandwich Point in the fog, and it was only by the most skillful pilotage that a multitude of other casualties are not recorded. Navigation on the lakes and their connecting waters is the most arduous of anything in the world, and it is safe to say that lake pilots are among the best trained men afloat.

The D. & C. Line steamer ran into and sank a pleasure yacht, Sunday night. There was no loss of life, but a large steamer never ought to run into a small sail boat. That the casualty occurred in Thunder Bay, near Alpena, is no excuse for the accident. The yacht sank at once in fifty feet of water and will be a total loss. She was valued at \$1,000. Immediately after the accident some one raised the alarm of fire on the Alpena. This, with the noise of the collision, brought out the passengers into the cabin, attired in their night clothes. It took the officers of the boat some little time to quiet them.

The Detroit Journal asks relative to the master of the castaway schooner Lamb, in Buffalo, how it is possible for the man to live in Sarnia, Ont., and yet be master of an American or United States vessel. The Journal man ought to know that an American citizen can live just where he elects to. He is not denationalized should he reside in London or Rome, Panama or Peru. We ought to be done with such small business, at least in so far as it relates to the floating population, of which vesselmen and drummers are the chief, in point of numbers. A patriotic United States citizen might reside in Juan Fernandez or Havana.

Fr. Norman B. Conger is to be the marine agent for the weather bureau here again. A vesselman said to-day that Mr. Conger was detailed here as the marine agent and he should have been left to attend to those duties. The

weather bureau is at a loss regarding the physical geography of the lakes, any way, and I cannot see how they even attempt to cast a prediction for lake ports, when they practically know nothing about the surroundings. This new chief, Professor Moore, is evidently aiming to attain distinction, but his day has gone past. Now that the hydrographic office, Navy Department, has taken hold.

CLEVELAND.

Special Correspondence to the Marine Record.

The Cleveland Dry Dock Co. have had two tugs and two Erie canal boats in dock this week.

The dry docks have not been very busy this week, about six vessels is all that I could scare up that needed dry dock work on them.

The Ship Owners' Dry Dock Co. docked the steamer Nahant for fastening her shoe and the steamer Siberia is booked for stopping a leak.

The Horace A. Tuttle grounded on Sleeping Bear Point, Lake Michigan, on Sunday. She was released apparently uninjured by the Petoskey. The Tuttle don't want to ground too often.

The Cleveland & Buffalo Line may build a sister ship to the City of Buffalo this winter. Mr. NeNwman, general manager of the line, is seriously considering the extensive outlay necessary to construct another mammoth palace steamer, same as the Buffalo.

Ore chartering has been more than brisk this week and almost everything offered was placed at the prevailing rates. The fall trade indicates fairly good returns for the vesselowner, and it is going beyond the question to say that it ought to show up better than it has done.

Lieut. Stafford, U. S. N., in charge of the branch hydrographic office at this port, is one of the most courteous officials in the service. Speaking personally, if you will allow me in your columns, I will say that the lieutenant is the right man in the right place and you can not always say so of government officers.

The branch hydrographic office at this port announces that the temporary water works crib No. 2 was sunk in Lake Erie, off Cleveland, Ohio, on September 8, 1897. It bears N. 12 degrees, 50 minutes W, (true) from Cleveland west breakwater (east end) lighthouse, distant 13,100 feet, or two and one-half statute miles.

On account of the general manager, Mr. James C. Wallace, being out of the city, it can not be learned for certain that a 450-foot boat is to be laid on the stocks at the Cleveland Ship Building Co. It is known from other sources, however, that a large steel boat will be built at once at the new Lorain shipyard, but the president of the company will neither affirm nor deny the report. The deal whatever it amounts to, is entirely in the hands of Mr. James C. Wallace.

With the early settlement of the coal strike in view, shippers are this week trying to charter so as to be a little ahead, but no better rates are offered and owners of vessel property are fighting shy of the low figures mentioned. There is no reason, said a prominent owner to me, on Wednesday, why the coal freight rate should not double on the present quotations, and he thought that fifty cents was a low enough figure for any of them to carry coal for. If there were more like him the product would soon pay for its transportation.

Although it was thought that the full stretch of channel down the Detroit River from Bois Blanc Island to Bar Point Light was fully deep enough for any vessel that could get over Ballard's Reef, the steamer Griffin struck a shallow spot near the lightship in this channel on Sunday last. The Griffin was drawing only 17 feet 2 inches, but the wind changed and the water dropped 2 feet or more after she left Ballard's Reef. She was delayed two or three hours, but suffered no damage, as the bottom in the channel is a mixture of sand and gravel. The shallow spot will undoubtedly receive the attention of the engineer in charge of the river work.

FLOTSAM, JETSAM AND LAGAN.

The number of boats going through Portage Entry in July was 534; for August, 378. The decrease is accounted for by the coal strike. In August, 1896, the number was 507.

Capt. McWilliams, late of the steamer Schnoor, is mysteriously missing this week, after drawing his salary and starting to deposit the amount at his bank. Mrs. McWilliams advises the public of the captain's disappearance.

The Iosco, bound down, from Chicago, with 105,000 bushels of corn shipped by Armour & Co., to Buffalo, went on Zelia Shoal, Lake Michigan, on Tuesday morning. She was easily floated again and was not damaged.

Contractor Zell, who was the lowest bidder for the new life-saving station to be built at the foot of Lake Huron, has given up the job, knowing that his bid was so much lower than the rest that he could not come out even. His bid was \$3,000 lower than other bids.

The wrecking steamer Favorite done excellent work in releasing the steamer Egyptian from St. Helena shoals, this week, after four hundred tons of her cargo had been jettisoned. The Egyptian was taken to St. Ignace for temporary repairs. She is leaking badly. She had a cargo of ore from Escanaba to Cleveland.

The three carferry lines which are controlled by the (F. & P. M., Ann Arbor and Big Four lines seem to experience no difficulty in securing large quantities of freight. The Ann Arbor and Pere Marquette are making daily trips, while the Big Four, which at first made only week-

ly trips, is now making two and three trips per week.

A Toledo dealer in coal is reported as saying: "Even if the strike were over, it will not be until about the 1st of October that coal will be laid down at lake ports for shipment. The mine operators must confer, then the miners, and by the time they get through coal will be universally scarce. Some coal may be received before long but it will not be in large quantity."

General Superintendent S. I. Kimball, of the United States Life Saving Service, was at Port Huron this week, seeing if the location of the proposed new station is at the best point. Mr. Kimball has not yet said what he thinks about it, but there has been considerable talk that the station is too far away from Port Huron to render satisfactory aid and much ill feeling has been engendered thereby.

Capt. L. A. Rand of the steamer City of Rome reports to George L. McCurdy of Chicago that when coming by the stake at the north end of Russell's Island St. Clair River, August 29, bound down, he struck bottom at least 150 feet northeast of the stake. His vessel was drawing 16 feet 6 inches. He is of the opinion that this stake should be shifted at least 200 feet farther to the northeast.

The new Wolvin steamer Empire City, which is equipped with quadruple expansion engines and Babcock & Wilcox watertube boilers, is also fitted with a mechanical stoker of Babcock & Wilcox design, which is said to work well and which is expected to reduce fuel bills and at the same time permit of the firing being done by ordinary labor. The device has not yet been sufficiently tried to say much of its merits or disadvantages.

The Lake Carriers' Association has for some time past maintained a system of signals to indicate low water in the vicinity of Ballard's Reef. These signals—flags by day and lights by night—are displayed from the Sandwich dock of the Cuddy-Mullen Coal Co., above the reef, and from the Amherstburg dock of the same company below the reef. Information regarding the draft of water is telephoned to these places by Duff Gaffield, who maintains a water gauge for the purpose of furnishing such information to the vessels.

A SLIGHT COLLISION.

Two passenger steamers, the "America" of the American Line and the "Algerian" of the Richelieu and Ontario Navigation Co., collided in the famous Lachine rapids of the St. Lawrence River, near Montreal. Both were crowded with passengers and a panic ensued when the vessels came together. Above the roar of the rapids came the grinding and splintering of wood as the two boats dashed down the rapids together. Many of the passengers fainted and pandemonium reigned on board. By a miracle no one on either boat was injured, and the damage to both boats is comparatively slight when the peril they were in is considered. The bulwarks of the "America" on the side she struck the "Algerian" are torn away, and the wood-work is otherwise damaged. The "Algerian" being the larger and heavier boat, escaped much serious damage. As soon as the end of the rapids were reached the steamers were headed for the docks, and the passengers disembarked.—Boston Transcript.

The plain, unvarnished facts of this "fearfully terrible" accident differ in some particulars from the above. The two steamers met, or rather the "Algerian" overtook the "America" at the Victoria Bridge—some three miles below the "roar of the rapids," unless these foam-tossed billows were keyed up for the occasion. While passing under the piers the two vessels touched, so slightly, however, that those on the Algerian's port deck were not aware that the vessel had touched.

This accounts for the "grinding and splintering of wood as the two vessels dashed down the rapids together." The "Algerian" in forging ahead broke a shutter off the "America"—cost about \$15—and this was all the damage received by either vessel.—Montreal Daily Star.

We have now received the following relating to this slight casualty:

"The article which appeared in your issue of August 6th as to the colliding of the steamers 'America' and 'Algerian' in the Lachine Rapids only came under my notice to-day, Sept 6th. I was on board one of the steamers. The statements as to the panic which ensued and the grinding and splintering of wood which came above the roar of the rapids, and the fainting of passengers, would have been highly exciting and romantic, if they were true, but unfortunately for the reputation of their sensational and unveritable author, they were not.

The two steamers touched one another in comparatively still water, three miles below the rapids, and as one was passing the other, the rail of the higher boat cracked the light anchor shutter of the other. As Jack said to Bill: "I like you Bill, you are such a bloody liar."

JACK.

NOTICE TO MARINERS.

Office of U. S. Light-House Inspector, Tenth District, Buffalo, N. Y., September 8th, 1897.

Notice is hereby given that the straight channel in Maumee Bay, Ohio, having been dredged to a width of 300 feet, from the Range Lights to the lake, the following changes in the buoys marking the channel have been made. Nun buoy, red, No. 2, and spar buoys, red, Nos. 4, 6, 8, 10, 12 and 14, have been moved 50 feet northwest of their former positions. Spar buoys, black, Nos. 3, 5, 7, 9, 11 and 13, have been moved 50 feet southeast of their former positions.

The red spar buoys, above mentioned, are on the north-west bank of the dredged channel, and are 150 feet from

the axis of the channel. The black spar buoys are on the south-east bank of the channel and 150 feet from its axis. The red nun buoy No. 2 is 20 feet northwest of the straight line of the channel bank.

(Signed.) THEODORE F. JEWELL,
Commander, U. S. N., Inspector 10th L. H. District.

COAL SHIPMENTS.

Taking the Cuyahoga district alone, the miners' strike has been disastrous to coal shipments.

The incomplete figures available, and it would appear that they always will be incomplete, shows that the movement of coal last month was decidedly light. During August the shipments of the five ports comprising the Cleveland customs district were 35,387 tons, against 296,409 tons in the corresponding month of 1896. Last month Duluth received less than 42,000 tons, the receipts during August last having been nearly 118,000 tons.

Last year the shipments of bituminous coal to all Lake Superior ports aggregated 2,727,130 tons, of which 1,303,376 tons were moved after August 1st. Up to the first of last month coal shipments to Lake Superior were only 958,377, leaving about 1,650,000 tons to be moved after August 1st, assuming that the demand does not exceed the requirements of 1896. Probably less than 150,000 tons of coal has gone to Lake Superior since August 1st. These figures do not relate to the Lake Michigan and Lake Huron trade, but the Lake Superior data serves to show that the movement of coal during the weeks following the settlement of the coal strike must break all records. Even if the mine operatives resume work next week, only about nine weeks will remain in which to forward the immense tonnage.

Considerable coal tonnage was contracted for at 20 and 25 cents. Vesselmen are looking to 50 cents on coal to both Lake Superior and Lake Michigan ports. The statement is made, too, that the coal needed in the Northwest cannot be forwarded; that the coal handling machinery is not sufficient. As profitable grain and ore freights are assured, vessel owners state that they will not bother with coal if any delay is necessary.

A shortage of railroad equipment will delay the movement from the mines to the lake ports.

What the coal strike has done for the lakes is reflected by these figures:

	June.	July.	August.
Cleveland....	167,216	62,406	21,192
Ashtabula....	100,127	12,455	2,695
Fairport.....	25,258	1,130	
Conneaut.....	14,947	8,216	3,696
Lorain.....	9,830	3,846	7,804
Total.....	317,378	88,083	35,387
Total, 1896....	349,547	340,655	296,409

This is only a portion of the shipments covering Lake Superior principally, and by no means shows the aggregate quantity of coal shipped from all lower lake ports.

MODERN PHRASEOLOGY.

The "Army and Navy Gazette" says: There was an interesting and not altogether uninteresting controversy in the papers the other day as to whether the well-known phrase should be spelt "under weigh" or "under way." We are reminded of this by the recurrence of this phrase in the letters of some of the correspondents during the naval maneuvers, when we noticed that save in one instance the spelling used was "under weigh." And yet we feel sure that this spelling is entirely incorrect, and was introduced by yachtsmen and other amateur sailors just in the same way that they have taught us to say "on a ship," and "off a ship," instead of the more correct "in a ship," or "out of a ship." Some time since we were at the trouble to search through a number of old naval works in order to discover if possible whether any of these, as we shall call them, new-fangled terms, were to be found in them. Our researches were without success. It is not until well into this century that we begin to find writers spelling it "under weigh," and much later still that the excuse or explanation for its use was invented. The terms off and on a ship are still more modern and are said to have been brought from the United States, where in the same way they speak of "off" a street and "on" a street.

MARITIME LAW.

DISNEY v. FURNESS, WITHEY & CO., Limited.

(District Court, D. Maryland, March 24, 1897.)

Shipping—Suits in Master's Name.

The master, by his general agency for the owners in relation to the ship, is authorized to sue in his own name, in their behalf, to recover damages for a breach of a contract of affreightment.

Affreightment—Readiness to Receive Cargo—Sundays.

A provision in a contract of affreightment that the shippers may cancel the contract if the steamer "be not ready for cargo on or before March 15, 1896," gives the steamer the whole of that day, though it falls upon Sunday, and she is not required to be ready on the preceding Saturday. Same—State of Readiness—Shifting Boards for Grain Cargo.

Failure of the ship to have up the top board of the shifting boards, where the board and the slots for receiving it are fitted and prepared, is not a want of readiness

to receive grain cargo, such as would authorize the cancellation of the contract of affreightment. Nor is cancellation authorized by failure to have up the shifting boards in the hatch combings, as these, if used at all, are better put in when the cargo is partly loaded.

Same.

A practice peculiar to the port of lading, which requires battening of the seams even when not needed, and merely out of abundant caution, cannot, without previous notice, authorize the shipper to cancel the contract for want of such unnecessary battening.

Same—Cleanliness of Hold.

A provision giving the shippers the right to cancel the contract for shipment of a cargo of grain if the ship be not ready on a given date requires a practical and substantial readiness to receive the cargo such as would insure the underwriters' inspector's approval, and obtain his pass, and would gratify the usual and reasonable requirements for avoiding injury to the commercial value of the grain.

This libel was filed March 19, 1896, on behalf of Messrs. Rickinson, Son & Co., of West Hartlepool, England, owners of the British steamship "Aries," to recover the damages caused by the refusal of the respondents to load the steamship when tendered to them, on March 15, 1896, at Newport News, Va., in violation, as the libelants allege, of a contract of affreightment.

THIS CLOSES IT.

New York, September 6th, 1897.

Editor Marine Record.

I notice in The Record of September 2d, the reply of Mr. Dumont to my letter appearing in your issue of the 26th ulto., which he styles as pretending to be an answer to his communication in your paper of the 19th of August.

I have not sought any controversy with Mr. Dumont, nor do I "pretend" to make any answer to his letter, but simply to publicly denounce his inefficiency and his non-fulfillment of the statutes relating to life-saving appliances.

The shoe evidently pinches him when such a fact is brought to the attention of the public, because as he does in all such cases when cornered with facts, he has resource to that stereotyped ruse of his, charging his accusers with having a "personal grievance," and for that reason I am making charges under a "mask."

Now, Mr. Editor, I will simply repeat what I have said in my former letter. "Statutes are openly violated and continually, not only by the local inspector of steam vessels, but by the Board of Supervising Inspectors, of which James A. Dumont is the president, and all with his knowledge and consent." This refers to life saving appliances. Is this not specific enough?

But it is useless to waste valuable time upon a man who never makes a straight reply, but seeks to avoid every issue brought forward in this controversy. He only wants to know who I am and make a personal matter of it; and even if I had a personal grievance, that does not refute my charge, nor does it effect my right to call the attention of the public to his total inefficiency as a public officer, and his non-compliance with the statutes, when the safety of the public demand it.

If he has no more self-respect than to decline to notice this charge, it is in keeping with all his former actions, when the truth is clearly stated and he cannot refute it. The only plausible excuse that can be alleged in defense of Mr. Dumont is his ignorance in not knowing how to carry out the law, or if he does he is afraid to do so.

As I said before in my last letter, the only remedy is to place competent and capable officers in charge of this important branch of the public service.

"JUSTICE."

A SALOON AT SEA.

At Liverpool on August 13th the Local Marine Board made an investigation of a somewhat novel charge against Capt. S. Amer, of the British ship Beecroft—that of permitting drunkenness on his vessel on the high seas. Evidence was given showing that, before the voyage commenced, the owners, in their letter of instruction to the captain, objected to his having any speculations in spirits or anything of that kind—they supplying only what was required for medical use. The captain, however, ignored these instructions, and shipped, on his own behalf, 20 cases of whisky, 3 cases of gin, 6 half dozens of beer and 12 dozens of beer and 12 dozens of stout, paying 14s a dozen for the whisky, and selling it to the crew at 4s or 4s 6d a bottle, the beer at 6d and the stout at 4d a bottle. The carpenter's bill for liquor for the voyage ran up to £13 11s 9d and there were several pounds charged to others of the crew. One witness testified that he drank two bottles of whisky in one day and he thought a bottle a day would be a fair allowance for one man. There was a good deal of drunkenness and some fights on the voyage. The captain testified that, being requested, he consented to allow the men to have a bottle for each side of the fore-castle of an evening—that was a bottle among seven men. At Christmas time he allowed the men a few bottles extra. After a short deliberation the chairman of the board said the captain's conduct, in allowing liquor to be sold to the crew, was very demoralizing and after careful consideration the court had come to the conclusion that the master's certificate must be suspended for three months.

TREASURY DECISIONS RELATING TO VESSELS.

Steam Engineers required on Vessels Propelled by Gas, Fluid, Naphtha, or Electric Motors.

Treasury Department, July 3, 1897.

Sir: The Department is in receipt of your letter of the 30th ultimo, calling its attention to the fact that a Mr S. H. Goodin, of Cincinnati, is navigating a gasoline boat of 23.44 tons, on the Ohio River as a ferryboat without a licensed engineer, the owner claiming that he is unable to find a licensed steam engineer capable of running a gasoline engine. You further state that the owner says he now has an engineer (unlicensed), capable of managing the boat, and asks for a ruling from the Department to examine his engineer and grant him a license as a gasoline engineer.

In reply, you are informed that under the act of Congress approved June 18, 1897, "vessels of above fifteen tons burden, carrying freight or passengers for hire, propelled by gas, fluid, naphtha, or electric motors," were included in all the provisions of section 4426, Revised Statutes, which requires "a licensed engineer and a licensed pilot," the same as is required for steam vessels under said statute.

The only qualifications for engineers, provided for in Title LII, Revised Statutes, which includes the statute above noted, are to be found in section 4441 of the same title, and the rules and regulations of the Board of Supervising Inspectors founded thereon; and there is no authority in this Department to order a ruling such as requested by Mr. Goodin, as to do so would be contrary to the law and the regulations referred to.

This Department realizes the difficulties of the situation in regard to "gas, fluid, naphtha, and electric motor" engineers, and will submit the matter to the consideration of the Board of Supervising Inspectors when it meets in regular session in January next.

In the meantime, and until the Board takes action on the subject, the class of vessels under consideration will have to employ a regularly licensed engineer, such as employed on steam vessels.

Respectfully, yours, L. J. GAGE, Secretary.
Henry D. Lemon, Esq., Surveyor of Customs, Cincinnati, Ohio.

FEES ON ENTRY AND CLEARANCE.

Treasury Department, July 8, 1897.

Sir: This Department is in receipt of your letter dated the 2d instant, in which you submit the inquiries as follows, touching the effect of the act of March 3, 1897, abolishing certain fees:

"It is expected by the Department Circular (45 of 1897) herein referred to that the ninth paragraph of section 4382 United States Revised Statutes, is the only fees abolished, or is the entire section superseded by the section herein referred to?"

"Is it not expected that we continue to charge 20 cents as provided by section 2654 of United States Revised Statutes, under article 1313 of Regulations of 1892?"

"Under section 4382, United States Revised Statutes, paragraphs 12 and 13 especially provide for entry and clearance to foreign port, same being 50 cents, as provided therein. Are those not the only sections abrogated by the circular herein referred to?"

I reply, first, that the act does not relate to the ninth paragraph of section 4382, Revised Statutes, nor does it supersede the entire section. Fees other than those especially mentioned in the act, remain as provided for by the existing regulations and decisions.

Second, that the fees of 20 cents provided for by section 2645, Revised Statutes, are not affected by the act cited;

Third, that paragraphs 12 and 13, only, of section 4382, are modified by the act.

Section 9 of the act as quoted in Department circular of arch 5, 1897, mentioned above, relates only to fees for the entry direct from a foreign port, and for the clearance direct to a foreign port, on the northern, northeastern and northwestern frontiers. Under the act, article 1314, Regulations of 1892, has been amended by the insertion of the following before the last paragraph on page 521: "Entry of a vessel direct from a foreign port, 50 cents; clearance of a vessel direct to a foreign port otherwise than by sea, 50 cents;" and by striking out the same words and figures after the word "concerned" on page 523 of said article. (Circular 58 of 1897.)

Respectfully, yours, O. L. SPAULDING,
Assistant Secretary.
Collector of Customs, Cleveland, Ohio.

REGISTRY OF VESSEL.

Treasury Department, Bureau of Navigation,
Washington, D. C., July 10, 1897.

Sir: This office is in receipt of your letter, dated the 8th instant, relative to the schooner Algonquin, of 10.02 gross tons, stated to have been built in your district, licensed, sold to an alien, placed under the British flag, and purchased by a citizen of the United States.

Section 10 of the act of March 3, 1897, provides that a vessel registered pursuant to law which, by sale, has become the property of a foreigner, shall be entitled to a new register upon afterwards becoming American property, unless it has been enlarged or undergone change

in build outside of the United States.

The Bureau is of opinion that the statute applies in the present case, and that the schooner may now be licensed on compliance with the regulations, if she was licensed in the United States before she was sold foreign, and is now the property of a citizen of the United States.

You will take action accordingly.

Respectfully, yours, E. T. CHAMBERLAIN,
Commissioner.

Collector of Customs, Jacksonville, Fla.

CANADIAN PASSENGER STEAMERS CAN NOT CARRY PETROLEUM BETWEEN PORTS IN THE UNITED STATES IF TAKING PASSENGERS FROM SUCH PORTS.

Treasury Department, July 20, 1897.

Sir: In reply to your letters of the 26th ultimo and the 16th instant, respectively, you are informed that, if the Canadian passenger steamers Empire and Monarch, referred to in your letters, run direct from Sarnia to Duluth without touching at any intermediate United States ports to take on passengers from such ports, the question of those ships carrying petroleum oils is a question wholly to be determined by the Dominion Government. If, however, the steamers referred to desire to take on passengers from United States ports en route between Sarnia and Duluth, collectors of customs at such ports can not clear the steamers with a full or partial cargo of petroleum oils on board, from the reason that there are other practicable routes for the carriage of such oils, unless it can be shown that the additional cost for such other practicable routes of carriage amounts to a prohibition of the traffic in petroleum oils between the ports named.

In previous decisions of the Department, on the subject of the carriage of petroleum oils (8795, April 23, 1888), it was held, in the case of United States passenger steamers running from Detroit to Mackinac Island and St. Ignace, that if there are sailing vessels or freight steamers running regularly between the ports named, "it would be illegal for passenger steamers to carry refined petroleum;" but if there were no freight steamers on the route named, then "the carriage of petroleum on passenger steamers would depend (as heretofore stated) upon whether the tariff of freight" by rail route was so high "as to amount to a prohibition of the traffic in refined petroleum."

Respectfully, yours, O. L. SPAULDING,
Assistant Secretary.

S. L. MOORE, Esq., General Freight Agent, Northern Pacific Railroad, St. Paul, Minn.

CLASSIFICATION OF FRESH FISH UNDER THE ACT OF JULY 24, 1897.

Treasury Department, July 28, 1897.

Gentlemen: Replying to your letter of the 24th instant, the Department has to inform you that paragraph 555 of the new tariff provides for the free entry of fish, fresh, frozen or packed in ice, provided they were "caught in the Great Lakes or other fresh waters by citizens of the United States."

If the fresh fish which are brought in by you packed in ice were not caught by citizens of the United States they are dutiable under paragraph 259, at one-fourth of 1 cent per pound, being "fresh-water fish."

Paragraph 261 covers fresh fish which are not fresh-water fish. (See Synopsis 15562.)

Respectfully, yours, W. B. HOWELL,
(6704h.) Assistant Secretary.
Sandusky Fish Company, Erie, Pa.

The per diem charges of Government inspectors for overtime in discharging vessels are properly computed upon the basis that the "working days" of a vessel (29 U. S. Stat., 115) are to run from the date of the entry of a vessel, and not from the day of designating the final port of discharge. (27 U. S. Stat., 41.)

Before the U. S. General Appraisers at New York, July 13, 1897.

In the matter of the protest, 15624 f-9482, of W. G. Dowling, against the decision of the collector of customs at New York as to the rate and amount of duties chargeable on certain merchandise imported per M.E. Dean, and entered July 25, 1896.

Opinion by Somerville, General Appraiser.

The protest in this case is directed against a charge of \$20, exacted of the master of the vessel Margaret E. Dean, for five days' services for the supervision of a United States inspector held by the collector to be beyond the time allowed by law for the discharge of the vessel. The amount is based on an allowance of \$4 per day, and the time is computed from the date of the entry of the vessel.

The protestant claims that the time allowed for discharging the cargo should have been estimated from the date of designating the final port of discharge under the act of Congress approved June 3, 1892 (27 U. S. Stat., 41), amendatory of sections 2881 and 2807 of the Revised Statutes. (Synopsis 12871, citing this amendment.)

The collector computed the time from the entry of the vessel (which was under 500 tons burden), in accordance with article 125, Treasury Regulations, 1892, as amended

by Department circular No. 72 (May 12, 1896), Synopsis 17108, which provides, among other things, as follows:

"The working days of a vessel are to be computed by excluding the date of entry, legal holidays, and stormy days, when discharge is impracticable with safety to cargo."

The above-amended regulation was adopted to conform to the act of Congress approved May 9, 1896, which extended the time for unloading vessels, and was amendatory of said section 2880 of the Revised Statutes. (29 U. S. Stat., chap. 164, p. 165; cited in Treasury Synopsis 17108.)

We are of the opinion that the "working days" specified in this act, and allowed for unloading, should be construed to run from the date of the vessels' entry, as decided by the collector, and as construed in the Department regulations. This is in accordance with established customs, practice, as stated in the report of the collector.

The protest is overruled accordingly, and the collector's decision affirmed.

A vessel enrolled and licensed for the coasting and foreign trade on the northern frontier (Rev. Stat., Sec. 4318-19), which clears at an American port, touches at an intermediate Canadian port, and thence immediately enters at an American port of destination (both American ports being in the same collection district) is liable to pay the fee for entry provided in section 4382, Revised Statutes, for vessels "direct from a foreign port." Before the U. S. General Appraisers at New York, July 13, 1897.

In the matter of the protest, 31298b, of Capt. J. W. Hatch, against the decision of the collector of customs at Ogdensburg, N. Y., as to the rate and amount of duties chargeable on certain vessel-entrance fee, imported per Cresco, and entered August 20, 1896.

Opinion by Somerville, General Appraiser.

It is provided by section 4382 of the United States Revised Statutes that—

"The following fees shall be levied and collected from the owners and masters of vessels navigating the waters of the northern, northwestern and northeastern frontier of the United States, otherwise than by sea: * * *

"Twelfth: For the entry of a vessel direct from a foreign port, fifty cents. * * *

"Fourteenth: Vessels departing to or arriving from a port in one district to or from a port in an adjoining district, and touching at intermediate foreign ports, are exempted from the payment of entry fees."

The original statutes, condensed in said section 4382, are found in 16 U. S. Stat. L., chap. 85, Sec. VII, p. 176, and the amendatory act in 16 U. S. Stat., sec. 11, p. 595.

The collector of customs at the port of Ogdensburg, N. Y., exacted a fee of 50 cents for the entry of the vessel Cresco, which is a small screw steamer of less than 37 tons burden, net, duly enrolled and licensed, for the coasting and foreign trade on the northern frontier under the provisions of sections 4318 and 4319 of the United States Revised Statutes. It is claimed that this charge is unauthorized by law.

The collector, in his report to the Board, makes the following statement of facts, which we find to be true, in the absence of any effort on the part of the appellant to deny or controvert them:

"The regular employment of said steamer is the transporting of passengers and freight between the ports of Waddington and Ogdensburg, in the collection district of Oswegatchie.

"On the 20th day of August, 1896, the Cresco left Waddington on her usual trip to Ogdensburg, and touched at the Canadian port of Cardinal, where she took on one passenger without baggage and proceeded to her destination.

"Following the precedent long established in this district, I required said Cresco to enter as if direct from a foreign port, and exacted therefore the fee of 50 cents."

The question for decision is, whether the vessel is to be regarded as coming "direct from a foreign port" within the meaning of the twelfth paragraph of said section 4382, above quoted. Did she enter direct from the Canadian port of Cardinal by reason of touching at that port and taking on a passenger without baggage? The vessel cleared from Waddington and entered at Ogdensburg, both of which are American ports, but are situated in the same collection district. It is manifest that if these ports were in adjoining districts the fee for entry would be remitted by the express terms of the fourteenth paragraph of section 4382, cited above.

While we can see no reason why this distinction was made by Congress, it is the letter of the statute, and we cannot undertake to except the present case from its operation on any supposed reason of equity or justice. An examination of all the paragraphs of section 4382 would seem to justify the view that a vessel clearing from one American port and touching at a foreign port, and proceeding thence to another American port, where entrance is made, comes directly from such foreign port. This construction is emphasized by the exception made in paragraph 12 of said section, and by the explanatory phrase occurring in paragraphs 8 and 9 relating to charges for manifest fees "whether touching at foreign ports or not."

The protest taking exception to the charge is overruled, and the collector's decision affirmed.

SAID AT THE NAVAL ARCHITECTS' AND ENGINEERS' CONFERENCE.

In the year 1837, the United Kingdom and the Colonies possessed under 3,000,000 tons of shipping. In this year the British Empire possesses nearly 15,000,000. In 1837 the imports and exports combined amounted to £97,000,000. They amount now to £730,000,000. In giving these figures I must remind you that other nations have also made great and rapid strides in the same direction during this period. The fact that our commerce has expanded to such a degree is a proof in itself that our neighbors have increased theirs to a proportionate extent and we heartily congratulate them upon this fact. The peace-making tendencies of mercantile development are without limit, and every nation benefits by the prosperity of the others. No old-world idea has been more thoroughly exploded than has the one that, when a nation is going ahead she is doing so at the expense of her neighbors.

It is a curious fact that almost all the improvements in shipbuilding and ship-propulsion which have enabled the Royal and Mercantile navies to accomplish their respective tasks have been carried out during the reign of Her Majesty. For two centuries before 1837 the art and science of shipbuilding were in a state of stagnation. It is true that steam had been applied to ships, but the enormous expenditure of fuel which it entailed made it unsuitable except for the shortest voyages. Iron, too, had been used in the construction of a few barges and river vessels, but the art of combining the material into ships strong enough for ocean voyages was not generally known.

So recently as the year 1835 the late Dr. Lardner demonstrated in an apparently convincing manner the utter impossibility of carrying out steam communications between this country and New York, yet two years later saw the construction of the steamers, the *Sirius* and the *Great Western*, which showed the practicability of Atlantic steam navigation. It may be interesting for us to call to mind that the *Great Western* was a paddle-wheel steamer 212 feet long, that she occupied 16 days on her passage to New York, while the *Lucania*, which at present holds the record with her passage of 5 days 7 hours 23 minutes, is a steel twin-screw vessel 601 feet long.

It was in the year 1837, also, that the first iron vessel classed at Lloyd's was built. It is also a curious coincidence that during the first year of the Queen's reign two famous series of experiments with the screw propeller were carried out independently by Mr. Pettit Smith and Capt. Ericsson, and resulted in the adoption of this mode of propulsion.

It is unnecessary to follow in detail the successive steps in the development of the screw propeller, but special mention must be made of its application by Mr. Brunel to the steamship *Great Britain*. This vessel contained the germs of many of the features which have since become permanent and was in many respects a most remarkable ship, embodying as she did in her construction many noticeable achievements of Naval architecture and marine engineering. She was launched in the year 1843, and was by far the largest mercantile vessel that had ever been built. She was constructed of iron at a time when this metal was but little used for shipbuilding, and when the proper distribution of the material to obtain adequate strength of hull in large vessels was imperfectly understood. Her dimensions were: Length, 322 feet; breadth, 51 feet; load draught, 16 feet; and tonnage, 3,500. With nothing but the experience gained with the *Archimedes* (a small vessel) to guide him, Mr. Brunel took the momentous step of fitting the *Great Britain* with a screw propeller. After various modifications in her engines the *Great Britain* proved herself an absolute success, and made regular voyages between Liverpool and Melbourne right down to our own times.

No sketch of the history of modern shipbuilding would be complete without some reference to the *Great Eastern*, which was commenced in the year 1854, and launched in 1858. She was an iron ship, 680 feet long, and with 83 feet of beam. Her displacement was 22,500 tons. This displacement has never yet been exceeded, though it must be mentioned that Messrs. Harland & Wolff are at present building a steamer, which, though of smaller tonnage than the *Great Eastern*, exceeds her in length by 25 feet.

The *Great Eastern*, though built 40 years ago, practically landed us in perfection as regards the construction of iron ships. Her longitudinal double bottom and the subdivision of her hull into water-tight compartments are

features which have found their way into the most modern practice.

Of all the improvements which have taken place in engines for marine purposes since Her Majesty ascended the throne, the most important and most epoch-making ones have been the adoption of the surface condenser and the introduction of the continuous expansion of steam in more than one cylinder. These two inventions have rendered possible the subsequent modifications which have so greatly conduced towards economy in fuel consumption; it is to them that we owe that cheap transport by sea which we now enjoy, a boon so necessary to a scattered Empire like ours, and so conducive to the due exchange of the world's commerce.

I cannot, however, resist referring to the latest departure in this long series of achievements, the successful introduction of the steam turbine for purposes of marine propulsion, which was so admirably described by Mr. Parsons in the paper which he presented to us at the spring meetings of the society.

I have dealt with the growth and development of the Mercantile navy first, because it is to their mercantile navies that nations must look for the expansion of their commerce and the increase of their prosperity. Whereas war navies, to which I will now refer, exist to protect that commerce and to safeguard the sea boards of the countries to which they belong.

At the time of the Queen's accession the British Navy was at a somewhat low ebb. You will appreciate this fact when I state that the naval estimates for 1836 only amounted to £2,750,000.

There were at that time some twenty-two paddle-wheel steamers in the Royal Navy, but they were of small dimensions; and, owing to the unsuitability of the paddle system for naval warfare, they were not regarded as a serious element in the floating defense of the country.

But in the year 1837—again this remarkable and never to be forgotten year—the successful application of the screw propeller in the *Archimedes* led to its adoption in Her Majesty's ships, and, in 1844, the first steam frigate, the *Arrogant*, was constructed. From that date up to the year 1859 there was rapidly developed that magnificent fleet of wooden line-of-battle ships and frigates propelled by steam, which culminated in the production of such vessels as the *Howe*, the *Duncan*, the *Mersey*, and the *Galatea*, vessels which for their stately beauty and symmetry of lines have never been surpassed in the history of shipbuilding. But the general adoption of the shell guns in the navies of all European powers caused grave doubts to be entertained as to their value as fighting ships, and men's minds were exercised to find a type of vessel constructed of a material more suited to the rapidly changing conditions of modern warfare.

So far back as the year 1845 orders were given for the construction of the iron screw frigates *Simoon*, *Megaera*, and *Vulcan*. Before these vessels were finished, experiments were made to test the effect of projectiles on their iron sides. The result of those experiments led the naval authorities to turn these ships over to trooping duties and to discontinue the use of this material for shipbuilding.

It was not till the year 1859 that the question of constructing sea-going iron ships with protective armour was seriously faced in this country. In that year, the two ships, *Warrior* and *Black Prince*, were ordered, and they may be regarded as the forerunners of our iron-clad fleet.

From these two ships we can trace the evolution of the modern battleship through its various stages. The belt and battery system, which was brought to such perfection by Sir Edward Reed, was the first serious departure from the type of armoured frigate pure and simple. Then came the masted turret-ship, to one of which class, the *Captain*, so melancholy a recollection is attached. Sail power was for the first time entirely discarded in the breastwork turret-ships or improved monitors, *Devastation*, *Thunderer* and *Dreadnaught*.

The substitution of mild steel in the place of iron for the hulls of ships, which commenced about 1875, was the next step of importance.

The introduction of the barbette and of the secondary battery, the rapid rise of the quick-firing gun, coupled with the invention of nickel steel and Harveyed armour, have combined to produce the battleship as we see her today, with her powerful and well-protected armament, her considerable speed, her great coal endurance, and her undoubted sea-keeping qualities.

BATTLESHIPS OF THE FUTURE.

Admiral P. H. Colomb, of the British Navy, recently came to the conclusion that huge iron-clad warships are a waste of money, because a fleet of such ships may be attacked and destroyed in detail by torpedoes. He advocates, therefore, the construction of comparatively large sea-going torpedo vessels to take the place of battleships as England's first line of defense against foreign invasion. Great weight is necessarily attached to Admiral Colomb's views because he has always been an original and daring thinker in matters pertaining to naval warfare. What makes the admiral's advocacy of torpedo vessels more remarkable is the fact that a few years ago he was strongly in favor of the supremacy of battleships as against torpedo attack. He frankly pleads guilt to this charge, but reasons that under Sir William Henry White, and others, battleships have attained the limit of possible perfection, and that, therefore, reasoning by analogy, they are on the point of being superseded by some new implement of destructive attack.

To illustrate Admiral's Colomb's position, it may be pointed out that the heavily armed wedge-shaped phalanx of the Greeks was ultimately defeated by the deep front line Macedonian formation. This, in its turn, gave way to the more mobile and better disciplined Roman legion, which, in due time, fell before armored knights on horseback. The deadly aim of the English archers at Crecy, followed by the general introduction of firearms, proved that personal armor was more a burden than a defense. In our own day close infantry formation, firing at close range and culminating in the bayonet charge, has been discarded for open rank and long range firing. There is thus a perfect evolution in land battles from heavily armored and comparatively immobile units of large size to much more numerous and more mobile units, each presenting a smaller target for attack. The British naval authorities have always had this analogy in mind ever since the *Monitor* fought the *Merrimac* and revolutionized sea fighting. But one departmental committee after another, composed of the ablest men in the service, has reported in favor of sea-going battleships. Yet, as a practical result of the work of these committees, we have the first-class battleship of today. This class of ship may be described as an armored citadel on an unarmored raft, in contradistinction to the earlier types which were armored pretty evenly all over above water line without special reference to the protection of the guns.—*Cassier's Magazine*.

THE COMMERCE OF OUR GREAT LAKES.

Though the development of freight and passenger traffic on the Great Lakes has added so largely to our national wealth and to our possession of an auxiliary war defense, its extent is not appreciated fully upon the seaboard. It seems to be accepted in a hazy way that the lake fleet exists and possibly prospers, but its magnitude, its superiority in many essentials of construction and employment is not recognized. And yet nearly 250 iron or steel steamers, aggregating 450,000 tons, and double this number of oak vessels, steam or sail, are annually employed, while last year 117 modern steamers, exceeding 108,000 tons, were built.

The improvement of channels, notably of the artificial water systems, has added enormously to the traffic, and the tonnage carried through the Sault Ste. Marie Canal—the "Soo"—was during the seven months of open navigation last year five times greater than that carried through the Suez Canal. Even after making allowances for the average steaming distances and relative sizes of ships, sixty days and 2,500 tons abroad, as compared to six days and 950 tons at home, the excess is greatly in favor of the American achievement.

The material necessities implied in the existence of this fleet—building and equipment yards, graving docks and modern appliances for freight handling—are provided for adequately, and in war our lake resources will be sufficient to furnish and to care for any auxiliary squadron we may put afloat.—*New York Herald*.

THE LIGHT-HOUSES OF THE WORLD.

A recent computation gives the total number of light-houses now in operation at 5,827, distributed as follows: Europe, 3,309; North America, 1,329; Asia, 476; Oceanica, 319; Africa, 219; South America, 169; and the West Indies, 106.



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NAVAL RESERVE.

Now that a question of a naval reserve force has been publicly brought forward and freely discussed in maritime circles, it would be quite within the province of a marine paper to still further ventilate this national and important subject by giving a brief review of what we consider the most necessary and advantageous system to be employed in order to materialize and lead to the ultimate success of this much to be wished for institution on our inland seas. And, starting from the western extremity of the chain of lakes, we would recommend a naval battery for general instruction in the use of small arms, big gun drill, and target practice, under a competent instructor, to be placed at the growing and important port of Duluth, Minn., where all who enroll their names would have the advantage of a regular and systematic course of naval drill and discipline at whatever period of the year that it was considered most advisable to offer the instruction.

At Chicago a drill ship should be placed in commission, say, one of our largest lake carriers, and temporarily fitted up, and supplied with one or two large guns and a proper quantity of small arms, and other modern naval appliances, offensive and defensive, the whole system to be placed under a naval reserve board, or advisory board, the secretary of the navy having the power to appoint duly qualified and experienced naval instructors and other officers, whose duties, besides the regular naval exercises and instructions would include a full and exhaustive report of the capabilities and efficiency of the various members of their department in discipline, drill, and attendance.

A vessel, similarly fitted up and supplied ought to be stationed at Detroit, and a free pass issued during the time of the annual drill, to all members of the reserve who reside at other cities and towns in the state of Michigan.

At Cleveland we might have a choice of vessels for a fair and moderate remuneration, as the resident shipowners and the community are in sympathy with this patriotic and national scheme of having a means of defending the port should the occasion again arise for being compelled to do so. We are positive in our belief that a large number of men would be enrolled under the naval reserve forces, stationed at Cleveland, and more especially if proper facilities were offered for the conveyance, etc., of those men who are residing at other Ohio ports, while the crews of the life saving stations and the light-house keepers would contribute a class of hardy and skilled disciplinarians who would heartily co-operate and give a tone to the service as an auxiliary in time of peace, and a great power and help to the United States navy at a time when their services might be suddenly required.

Buffalo, as an old and leading lake port, and on account of her large marine interests, ought certainly to have the attention due to Cleveland and Chicago. As it is well known that a large number of lake seamen winter at that port, and a number come up from the seacoast to Buffalo in the spring to be ready for lake navigation. A week or even a month's naval drill could be given in the early spring without detriment to their ordinary occupations.

We would also like to see a large battery established on a Lake Ontario port, say, at Oswego, N. Y., for the purpose of enrolling members, and having a periodical drill similar to the institution advocated for Duluth, and a clause in the rules of the force might allow a member the privilege of changing from the drill batter on shore to a training ship in another district and, vice versa, according to a mutual agreement between the officer and the member desiring the transfer.

On these four training ships at least 3,000 to 4,000 well disciplined men could be kept in readiness for all naval and maritime emergencies, the annual or semi-annual drill could be made, sufficient to keep the men up to the required standard, and while the joining of the reserve would be a purely voluntary and personal act, a stipulated time of service would be compulsory, and a knowledge of the whereabouts of the individual members at all times would be required by the officer in charge of each district, so that notices or commands might be forwarded on short order.

A small retaining fee issued quarterly, or semi-annually to each member on a personal application, would meet the requirements of the above, and keep the officials informed of the general movements and location of the members belonging to their district.

A comprehensive system on these or similar lines would meet with more popular favor and success than a naval volunteer corps, formed exclusively of yachtsmen, and would still leave room for smartness and ability to be properly recognized in due course.

The almighty dollar is the chief factor in the building of a navy, yet brain and sinew are required to handle it, and if each and both go hand in hand, we may probably soon reach a respectable showing or, at least, take our rank again as a naval power, for it may be borne in mind as a truism, that a wholesome knowledge of a nation's resources, ready at hand, often checks uncalled for interference and forwardness on the part of others not directly interested.

MERCANTILE MARINE.

The fact that a large and powerful mercantile marine is absolutely necessary to the advancement, interests, and welfare of a maritime nation is universally admitted. And our senators and representatives are not a whit behind the age in recognizing this valuable section of the laws of commercial equality. The ever increasing demands of our country for a liberal code of laws to foster and encourage the energy, perseverance, and capital of our prominent citizens, towards this eminently legitimate and national result is beyond either question or dispute even by the most conservative members of our legislature; in fact, the unanimity of sentiment seems to retard instead of advancing useful and important legislation on this vital subject.

It would seem to be a unique and crude idea to anticipate or wish for a certain amount of opposition, and yet we begin to imagine that if an individual or a section of our representatives would show a decided front in opposition to the marine interests of our country it would tend to hasten along the inevitable. Statistics, statements, and reports are generally admitted without one dissentient vote, and the various measures proposed are, in a general way, thought to be advisable and essential to the country's welfare; and yet it has been frequently noticeable that at this point the utility of any bill or petition seems to hang fire and apparently drop out of sight.

The British, who, having felt the increasing power of the United States mercantile marine, and the decline of her own commercial interests, at once with a liberal, far-seeing, and open-handed generosity, subsidized several lines of steamships and turned the tide of maritime supremacy in her own favor. The world-renowned Transatlantic lines were liberally fostered and encouraged, the Cunard line receiving half a million dollars annually as a subsidy. After a few years this munificent sum was made \$700,000, and continued annually for a period of fifteen years, when the spirit of enterprise and commercial activ-

ity required a portion of this sum to be handed over for the building up of other equally deserving and competing lines, hence, the immense growth of this foreign Atlantic mercantile navy, whose influence reaches, octopus-like, over every portion of the United States. After this showing it need scarcely be mentioned that the Eastern hemisphere was equally well taken care of by subsidizing the Peninsular and Oriental Steamship Co., with an annuity of a million dollars, this sum being afterwards doubled on account of increased service.

The growth of the French mercantile marine is the result of the bounty law, passed in 1881, and although the French are slightly handicapped by the British having been the first in the field and their greater maritime zeal, yet, in our humble opinion, a few years of commercial activity will prove the immense advantages of the French bounty system, which allows a rebate of 17 1-2 per cent on the total cost of a steamer. For instance, a vessel costing \$170,000, would earn a rebate of about \$30,000, and on a composite built vessel of 1500 tons gross, the bounty would amount to \$12,000. These figures speak volumes in connection with the industry which they are meant to foster.

The German mercantile marine, following somewhat in the footsteps of France, and under the recognition of the government, is advancing, and has increased considerably during the last five years, and quoting from statistics on this subject, the increase has amounted to 101 per cent in six years, and much of this tonnage is said to have gone into subsidized lines for national purposes.

Russia, which is not a strictly maritime power, on account of her geographical position, and her people not being over-zealous in this industry, is, however, beginning to appreciate the value of a mercantile marine, and the government, with a view to encouraging trade, has guaranteed liberal subsidies, and efforts are being made to develop her marine interests. The total amount of annual subsidies paid by the Russian government is placed at about \$732,000, which admits of the existence of several excellent steamship lines.

Italy can also make a splendid showing with her consolidated steamship lines, containing a fleet of ninety vessels, having a tonnage varying from 500 to 5,000 tons. Yet it must be borne in mind that this mercantile fleet is not left to do battle against outside influences, and allowed to live or die according to the usual and expected fluctuations in the carrying trade of the world. But, on the contrary, is carefully bolstered up, kept alive, and helped over the dull seasons of commercial inactivity by an annual government subsidy of 8,000,000 francs, this amount being found necessary in order to establish a national mail and passenger service, more especially over the eastern hemisphere. Yet the Italian flag may frequently be seen in South American harbors floating over as fine a specimen of freight and passenger steamship as there is afloat, while at the same time, the wooden vessels, built in Italian ports, are noted for their strength, model, and complete workmanship, and although we might readily suppose that the above was a very tolerable showing, yet their maritime bill includes a large bounty to shipbuilders for the construction of vessels and engines on Italian soil. Also, a bounty in the shape of mileage on the distance navigated, and several other clauses favorable to the growth of her mercantile marine.

Taking into consideration the standing of the United States as a prominent power among the nations of the earth, we would only re-echo the speech and language made use of by our most eminent statesmen and diplomats in the days gone by if we said that a merchant marine was the sine qua non of a nation's political influence and lasting prosperity. On the other hand, most of our readers are aware of the vast productive area of the United States, and coupled with the immense requirements of our population, will, no doubt, feel a proper degree of uneasiness at the apparent inadequacy of our executives to grasp the first principles of national greatness and commercial supremacy, and it still remains an open question with us whether the various trans-atlantic lines would not now have been flying the stars and stripes if the pioneer steamships of Collins' line had been zealously guarded and supported by the administration. However, the chance having gone by, we can all witness the result, and from past errors correct our present and future course, and with renewed energy urge upon our representatives the increasing demands for an American mercantile marine in proportion to our national standing.

TRIBUTARY TO THE GREAT LAKES.

We would like to call the attention of our readers to the large salt water basin situated at the northwestern limits of the United States territory. Just now the leading men of this section of the country, with the usual American energy and skill, are endeavoring to build up a mercantile marine to be engaged in the coastwise and foreign trade.

Puget Sound may reasonably be called a salt water lake—embracing, as it does, a large area of valuable and productive territory, and in many instances comparing favorably with Lake Superior. There is an abundance of water, and but few hidden dangers to worry or annoy the navigator. At the same time there are excellent natural formed harbors that do not require large congressional grants to admit commerce, but simply the usual wharfage facilities and capital to transform the present small towns into important shipping points. Our object in calling the attention of our readers to this section of the country is more especially with a view of pointing out the industrial and consequently the financial benefits that are liable to accrue to those persons who are interested in the lake marine, when this western industry gains the impetus that the advantages of the country so eminently deserve. We believe that commerce, in the broad sense of the term, is already looking for another location on the Pacific slope, hence we must argue that in the natural course of events this country, to be spanned by active and increasing industry, must find a less expensive and more speedy means of transportation from the western to the eastern limits, and vice versa.

Carriage by water, besides being more direct, is handled at a less cost than by rail, and we were pleased to notice a few months ago the arrival of a large tea cargo at Tacoma, Washington, (this port being situated in the eastern portion of Puget Sound), and from there distributed along to the various eastern terminals.

In these days of commercial activity and national advancement it behooves the people of the United States to pay increased attention to the national requirements on our western border, and not allow the carrying trade of the north Pacific to be appropriated and swallowed up by foreign vessels, the same as we have always done in connection with our Atlantic ports. And just here it will be in order to notice that the British have recently subsidized a large and powerful fleet of ocean steamships to open up the eastern trade on the Pacific as an auxiliary and in direct connection with the Canadian Pacific railway.

Having the above facts in view, measures ought to be taken at an early date to encourage transportation over the lines situated in the United States—more distinctly as an offset and in opposition to the existing British line already established. Our large coast line on the Pacific gives material advantages to a mercantile marine, and, as the western trade develops, an immense portion of the products and merchandise will find the readiest and most economical transportation over this section of the country by means of the chain of lakes. And that this result will obtain in the near future we feel morally certain. At the same time we would strongly advocate the subsidizing of a large American fleet of merchant steamships for the Pacific trade, and with a proper encouragement given to sailing vessels by way of tonnage dues, etc., the advancement of trade, civilization and industry would be hastened along in the neighboring continent of Asia, and the commercial relationship and increased carrying trade would amply repay the most liberal measures that this country could entertain; besides throwing open the old world to our scientific talent and superior mechanical industries, the carrying trade would probably be diverted from the old groove, and eventually tend to the building up and ultimate success of our naval and mercantile marine, notwithstanding the past opportunities lost and the present unsatisfactory state of our maritime resources.

Complaint has reached us this week relative to the lighting of the Ballard reef fairway or channel. The upper gas buoy, No. 5, it is stated, should be placed on the shoal, nearly north of its present location, and not where it now shows. The light can not be seen by boats bound down the river, and it is consequently misplaced. It would appear that the officers of the Light House Board should consult lake pilots before arranging lights on a leading bearing, such as this is.

As an indication of how business is done in Chicago let us quote a dispatch received on Wednesday evening. "The steamer Helena, coming up Lake Michigan, was chartered at 9:55. She rounded the piers at 10 o'clock and went to the Central Elevator, and 100,000 bushels of corn began pouring into her hold at 10:20. Vesselmen say that this is about the most rapid business done in grain chartering in the history of the lakes. She will get away from the elevator about 2 o'clock Wednesday afternoon. The old country can't attempt to compete with work of this sort. Nowhere in the world is cargo handled like it is on the lakes.

From Chicago to Lake Erie ports, two cents is a low enough freight. Vessel owners should certainly keep up this rate and not go a fraction below it. While coal rates are in a measure demoralized, and have been for seasons past, there is no reason why the down freights should be knocked out also. There are limits beyond which vessel rates can not go and owners should have backbone enough to say so.

Messrs. W. W. Hubbell & Co. and M. Sullivan closed a dredging contract with the government, last week, for an amount aggregating about \$320,000. Arthur H. Bogie, of Milwaukee, also closed a large deal, and it would appear as if the work was on a lucrative basis for the contractors, judging from the prices submitted, as published in the issue of the Record, September 2d, and wherein we quote official figures.

LAKE FREIGHTS.

Grain freights took a tumble this week and the firm rate of 2 cents a week ago from Chicago to Lake Erie dropped to 1 3/4 cents on corn to Buffalo; this was due to rushing tonnage into Chicago over and above the demand for same, although chartering was extremely brisk and everything that could carry grain was eagerly picked up. With the diversion of considerable tonnage back to the Lake Michigan trade, 2 cents ought to be easily obtainable this week again.

In iron ore the better rate of 70 cents from the head of Lake Superior, 60 cents from Marquette and 55 cents from Escanaba to Lake Erie ports are now the going rates and are likely to advance, as heavy chartering has been done this week from the head of the lakes.

Coal from Buffalo is 20 cents, Lakes Michigan or Superior, and the shipments have been very light for the week.

Grain has not yet begun to be shipped in any quantities from Lake Superior so that the rates as yet cut no figure in the market, although many charters are being made ahead. The lumber rate from Duluth to Buffalo, and on Tonawanda is now quoted at \$1.75; the same rate also applies to Ashland.

THE HAMBURG-AMERICAN LINE IN 1896.

While the United States is making vast strides in the upbuilding of the naval as well as the mercantile marine, we are not keeping step with Germany by any means.

Hamburg now boasts of being the home port of not only the largest steamer in the world (the Pennsylvania), but also of the largest sailing vessel (the Potosi), a five-master, running regularly to Chile.

The consular report dwells in a very interesting and significant way upon the emergencies of a high protective tariff in the United States, injurious to German exports, and of a lasting tariff war between the two countries. It scouts the latter possibility as being a most remote one, owing to the mutual need of a full and free commercial intercourse. The report makes the noteworthy statement that, under the McKinley tariff of 1890, the freight traffic of the company showed a marked increase. This disposes of the arguments and protests of this country against the operation of the McKinley tariff in the same way that all the complaints and prophecies in connection with the sugar schedule of the Wilson tariff have been contradicted by actual circumstances. The export of German and Austrian sugars through this port since August 24, 1894, has been greater than for any previous corresponding period since the two years 1890 and 1891. German products have suffered under neither tariff, and these facts ought to prove a forcible argument in the hands of our government against the protests that are now being made in the foreign press and in higher quarters against tariff legislation.

The company claims that the trade from here to the United States has now reached such proportions that

although they have recently added immensely to their tonnage by the construction of many large vessels, full freights have always been secured in advance by definite contracts.

No fear is entertained that the measures looking to the reduction of immigration into the United States will injure this line, as it has little to do with such classes of emigrants as it is intended to exclude as undesirable. It refers to the large and unsettled arable area of our country and the fact that a protective tariff will increase the opportunities of labor and necessitate the introduction of more laborers.

The Hamburgische Borsenhalle, March 16, 1897, commenting on the report, gives the following table of the tonnage of the largest steamship companies.

	Tons.
Hamburg-American Line	290,000
North German Lloyd	265,000
Peninsular and Oriental Steamship Company....	280,000
Messageries Maritimes	220,000

No American can read such a report without mortification. He sees this magnificent fleet of ships carrying thousands of passengers and millions of dollars of freight annually to and from the United States, and remembers that but three American steamers have entered this port in over thirty-eight years. He stands on any quay of this busy harbor, and sees the flag of every little petty power that has a few miles of seacoast, but never the American flag. He hears the ever-increasing blows of the hammer in the shipyards of Hamburg, Bremen, Kiel, Stettin, Elbing and Rostock, and blushes over his efforts to explain that the St. Louis and the St. Paul are the beginning of a rejuvenated merchant marine, worthy of the days of the fifties. There are some one hundred steamship lines in this city alone, giving remunerative employment to thousands and thousands of workmen (in a single yard 3,500 men are employed), and the Hamburgers boast that they now possess regular lines of modern steamers to every quarter of the globe.

It is estimated that the United States pays \$300,000,000 annually to the owners of foreign vessels for transporting American products alone. This entire amount could not be suddenly, or even eventually, transferred from foreign to American pockets, but the greater part of it could be saved; and what is quite as important, immense industrial opportunities would be opened to American artisans under a Government policy that would protect and encourage shipbuilding. Hamburg, with astounding rapidity, has become the great distributing center of Europe for the whole world, in late years surpassing both London and Liverpool in the amount of tonnage annually entering and clearing. Consul W. Henry Robertson at Hamburg states that nowhere can the pulse of international trade be so accurately taken as in this great market, and nowhere can the prosperity of a nation with a powerful merchant marine be more readily seen.

A TRIP TO THE YUKON.

A party of Chicago gold hunters is going to the Klondike by way of the Great Lakes and Cape Horn. They will sail in the schooner George Sturges, with Adolph Frietsch as master. The boat is now fitting out at Chicago.

Capt. Frietsch intends to take 300 people from Chicago to the Gulf of St. Lawrence, down the Atlantic, and around Cape Horn and then north to the Yukon River. The journey is expected to take six months, bringing the gold hunters to the Yukon by April 1st.

The Sturges was built in 1872, and is one of the smartest sailing vessels on the lakes. For years she has been owned by E. E. Ayer, and has made voyages to Michigan ports, carrying provisions to Port Huron and taking lumber for the return trip at either Alpena or Cheboygan. Capt. Frietsch, who has purchased the boat and who proposes to make the long and risky voyage, is an old navigator on the lakes and is the man who crossed the Atlantic alone in the little Nina.

It is of course possible that Frietsch may make a successful cruise, but 300 passengers in a two by ten schooner is anything but comfortable.

Two Chicago men have recently experimented at that city with a new explosive called mirex, which it is said will revolutionize naval warfare. The explosive is fired by water pressure, and is much cheaper, lighter and more powerful than any material in use at present.

H. C. BURRELL,

Marine Reporter.

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you white and deal
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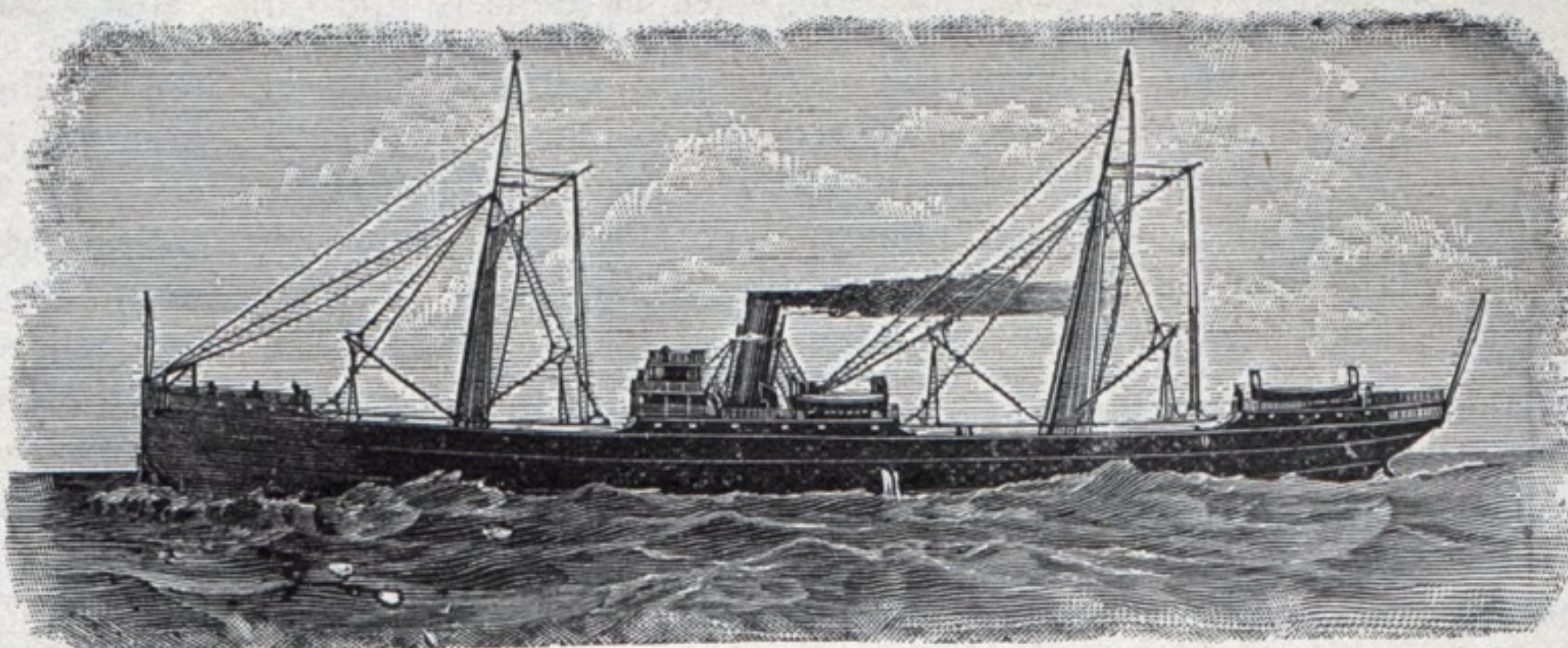
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To have offered a guaranteed watch for \$1.50 a few years ago would have only caused a scoffing public, but the marvelous progress in mechanics together with our enormous output have made it possible, and we are now proud to introduce to the readers of this journal our "NEW AMERICAN." This is no cheap, trashy affair. The case is of solid, yellow metal, equal in appearance to gold, and will not change color. The movement is the regular American lever, has second hand, patented escapement, 240 beats per minute, and a guaranteed reliable time keeper. The most wonderful of modern productions in quality and price. Sent on receipt of \$1.50. Your money back if you are not perfectly satisfied. We refer by permission to THE MARINE RECORD

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PEERLESS RUBBER MFG. CO., 16 Warren St., New York.193-195 Bank St.,
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CHICAGO, ILL.**WHISTLE SIGNALS.**

At the meeting of the Board of Underwriters of New York held on August 19th, the following resolutions were adopted:

"In view of the very favorable report presented to this Board in respect to the electric automatic whistle operator, blast recorder and marine telegraph system manufactured by the Signal and Control Company, and its adoption by the United States naval vessels and certain steamship lines, it is hereby resolved that this Board approves of the whistle operator and blast recorder, etc., as above named, and urgently recommend its adoption by all steamships and steamers or other vessels, as an efficient means of preventing collisions and recording evidence deemed essential in case of collision.

The subject has been investigated for the Board by Mr. W. M. Jones, who reported to President Raven as follows:

"Any device that lessens the danger of collision between vessels and makes navigation simpler and safer is welcome to owners and underwriters. Such a device is the electric whistle (manufactured by the Signal and Control Company, of Brooklyn, which device I have by your direction carefully investigated. The test of merit is practical use. The electric whistle referred to has been adopted by the United States Navy, and is installed on and in use on all the vessels of the "White Squadron," on the ocean steamers of the Cunard, White Star, North German Lloyd, Hamburg-American, International Navigation Company (American Line), and the Atlantic Transport lines; on the steamers of the Old Dominion, Providence and Stonington lines, the Montauk Steamship Company and the Hoboken Ferry Company, and on the steamers of the Northern Steamship Company, on the lakes, on the vessels of the United States Lighthouse Department and on the United States lightships. Wherever used the electric whistle has given entire satisfaction. Its action is automatic, blowing a clear sharp blast at stated intervals, the length of the blast and the length of the interval being made in any way desired; and if desired the whistle may be used to telegraph by the Morse or other code. Accompanying this report are copies of some of the testimonials given by officers of the vessels on which the electric whistle is installed. In addition to and independent of the electric whistle, or in connection with it, the Signal and Control Company manufacture a "register" which records each blast of the whistle. This latter device is of

great value; for, as is well known, in cases of collision and disaster the question, "What signals were given?" is of vital importance. The register answers that question for the time of every blast is recorded, not arbitrarily but automatically, and mechanically. As a means of securing greater safety to life and property on the high seas, lakes and rivers, I cannot commend too highly the device above referred to."

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Albany.....		100,000	50,000		
Baltimore.....	1,394,000	1,603,000	306,000	112,000	
Boston.....	40,000	836,000	117,000		
Buffalo.....	834,000	1,087,000	530,000	137,000	411,000
Chicago.....	1,880,000	14,139,000	2,975,000	490,000	30,000
Cincinnati.....	4,000	5,000	46,000		2,000
Detroit.....	241,000	22,000	18,000	116,000	13,000
Duluth and Superior.....	535,000	188,000	147,000	408,000	235,000
Indianapolis.....	318,000	68,000	57,000	1,000	
Kansas City.....	1,235,000	263,000	119,000	7,000	
Milwaukee.....	69,000	219,000	9,000	60,000	30,000
Minneapolis.....	3,066,000	13,000	107,000	11,000	2,000
Montreal.....	226,000	39,000	509,000	12,000	32,000
New York.....	958,000	2,559,000	1,703,000	580,000	28,000
Oswego.....	25,000	138,000	13,000	8,000	
Peoria.....		76,000			46,000
Philadelphia.....	647,000	49,000	32,000		
St. Louis.....	1,455,000	989,000	134,000		
Toledo.....	40,000	287,000	184,000	100,000	
Toronto.....	563,000	20,000	820,000	243,000	
On Canal.....	25,000		6,000		2,000
On Lakes.....	166,000	1,565,000	62,000	63,000	127,000
On Mississippi.....	1,053,000	6,346,000	1,579,000	10,000	348,000
Grand Total.....	14,817,000	31,220,000	9,543,000	2,384,000	1,306,000
Corresponding Date, 1896.....	46,495,000	13,781,000	7,274,000	1,769,000	1,108,000

A court-martial of two seamen of the British battleship Royal Sovereign, held at Portsmouth, Eng., on the 18th ult., developed the fact that the complaints recently

made by the seamen were greatly exaggerated. The prisoners tried pleaded guilty of gross insubordination, and of striking their officers. One of them was sentenced to a year's penal servitude, and the other was condemned to receive twenty-four lashes and to undergo three months' penal servitude. Both of the seamen were dismissed from the service.

NOTICE TO MARINERS.

Treasury Department,
Office of the Light-House Board,
Washington, D. C., September 3, 1897.
SUNKEN ROCK GAS BUOY.

On August 3, 1897, a black gas buoy, showing a fixed white light varied by a white flash every ten seconds (instead of a fixed white light), was established on the southeasterly side of the main channel of the St. Lawrence River, in 12 feet of water, on the westerly edge of a reef, just under water, and about 5-16 mile SW. 1-8 S. from Sunken Rock Light-House, in place of Sunken Rock Buoy, No. 17, a black spar.

FEATHER-BED SHOAL GAS BUOY.

On August 3, 1897, a black gas buoy, showing a fixed white light varied by a white flash every ten seconds (instead of a fixed white light), was established on the easterly side of the channel of the St. Lawrence River, in 17 feet of water, on the westerly edge of a rocky shoal between Carleton Island and Cape Vincent, and about one mile SS.W 1/2 W. from the southwesterly point of Carleton Island, in place of Feather-Bed Shoal Buoy, No. 25, a black spar.

W. S. SCHLEY,
Captain, U. S. Navy, Chairman.

Light-House Establishment,
Office of the Light-House Inspector 9th Dis.,
Chicago, Ill., September 4, 1897.

LANSING SHOAL GAS BUOY RE-LIGHTED.

Notice is hereby given that the gas buoy, marking Lansing Shoal, north end of Lake Michigan, reported as being out, August 27th, 1897, was re-lighted September 3, 1897.

By order of the Light-House Board.

E. H. C. LENTZE,
Commander, U. S. Navy,
Inspector, Ninth Light-House District.

"SOO" CANAL REPORT.

REPORT OF FREIGHT AND PASSENGER TRAFFIC TO AND FROM LAKE SUPERIOR FOR THE MONTH OF AUGUST, 1897, INCLUDING STATISTICS OF THE UNITED STATES AND CANADIAN CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO.

EASTBOUND.			
ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Copper, net tons.....	13,662	841	14,503
Grain, bushels.....	1,588,025	593,777	2,181,802
Building stone, net tons...	516	.....	516
Flour, barrels.....	911,414	156,695	1,068,109
Iron ore, net tons.....	1,353,415	817,138	2,170,553
Iron, pig, net tons.....	1,848	.....	1,848
Lumber, M. ft. B. M.....	118,129	4,313	122,442
Silver ore, net tons.....	.....	.....	.....
Wheat, bushels.....	1,976,973	981,701	2,958,674
Unclassified freight, n.tons	30,637	3,777	34,414
Passengers, number.....	4,910	2,123	7,033

WESTBOUND.			
ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Coal (hard), net tons.....	103,006	20,700	123,706
Coal (soft), net tons.....	53,250	4,000	57,250
Flour, barrels.....	.....	.....	.....
Grain, bushels.....	.....	.....	.....
Manf'd iron, net tons.....	15,900	3,557	19,457
Salt, barrels.....	42,180	.....	42,180
Unclassified freight, n.tons	46,663	8,190	54,853
Passengers, number.....	5,905	1,980	7,885
Eastbound freight, net tons.....	.....	.....	2,673,557
Westbound freight, net tons.....	.....	.....	258,752
Total freight, net tons.....	.....	.....	2,932,309
Total craft, United States.....	.....	.....	2,017
Total craft, Canadian.....	.....	.....	813
Total craft.....	.....	.....	2,830
Total registered tonnage, United States.....	.....	.....	2,219,151
Total registered tonnage, Canadian.....	.....	.....	707,331
Total registered tonnage.....	.....	.....	2,926,482

NOTES.

The Wilson-Furness-Leyland steamship interests have decided to establish a line of passenger steamers between New York and London. Five ships, of 10,000 tons gross tonnage, are now being completed at Belfast and the Tyne. They will carry no steerage passengers.

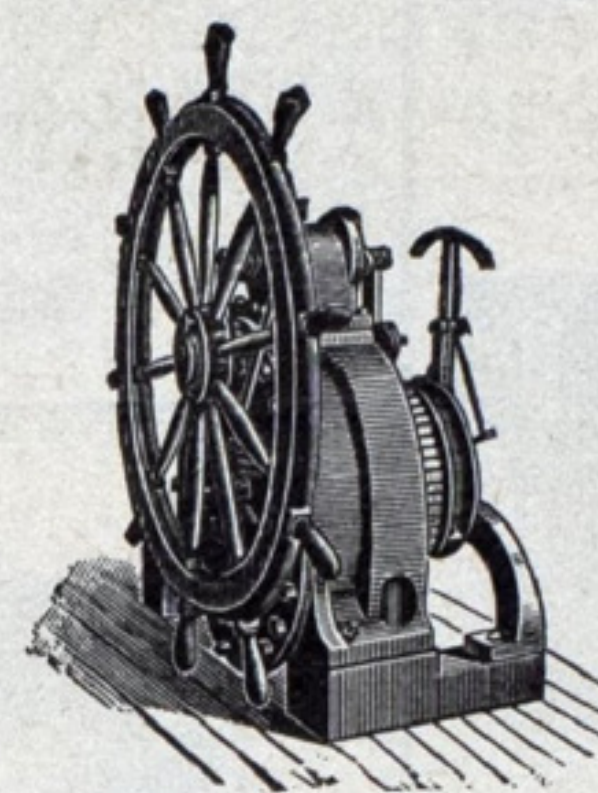
The details of the proposition under consideration by Acting Secretary of the Navy Roosevelt in regard to the re-organization of the personnel of the navy have been made public. The proposition contemplates the amalgamation of the line and engineer corps, the assignment of a sufficient number of officers to duty as engineer officers after service with the machinery and on deck, the creation of a general staff which shall handle all matters relating to war, and the adoption of a plan for regulating the flow of promotion. The older line officers oppose the scheme on the ground that it would not finally settle the controversy, and the engineers are also not heartily in favor of it.

The annual report of the Commissioner of Navigation makes a showing which is misrepresenting, says the Marine Journal. It alleges that because the collection of tonnage tax was \$731,000, or \$191,000 more than the previous year, therefore the shipping business of the country has been fairly prosperous. The collection of tonnage taxes, however, shows nothing of the kind, and any inference of prosperity by reason of large collections of that sort is altogether misleading. Of last year's increase \$52,000 came from the collection of tax on German vessels as a result of suspending the exemption of such vessels from freedom of the law.

Flogging is still one of the recognized punishments in British military prisons, though the good old days when 300 to 500 lashes were common have passed. This degrading punishment was, moreover, inflicted in profound peace for military offenses which nowadays would be checked by light imprisonment. Fifty or sixty years ago the commander of a man-of-war could flog any man under his command without any form of trial. It is told of the

captain of a British frigate that it was his custom to flog the last man in from the yard after reefing or handling sails; and it happened in a fresh gale that the captain of the foretop, the smartest and best seaman in the ship, after close reefing the topsail, saw that the weather 'earing was not properly hauled out. He was compelled, therefore, to lay out again to complete his work. Having accomplished it, he threw himself from the yard arm into the sea, preferring to perish rather than submit to the ignominious punishment which he knew awaited him. It is not surprising that this captain should have ended his days by being shot in battle by one of his own men, and that his frigate was so badly fought that it fell into the hands of the enemy. The punishment of flogging was indeed severest upon those who least deserved it. Hardened offenders became so used to it as to accept punishment with comparative indifference. The author of "The Port Admiral" asserts that a seaman named Collins, who had received four dozen without a word, turned to the captain when he ordered the master-at-arms to "cast him off," and with an indescribable air of drollery said, "Thank ye, your honor, thank ye; I was just a-dozing off to sleep." He had two more, but it did not move his stoicism.

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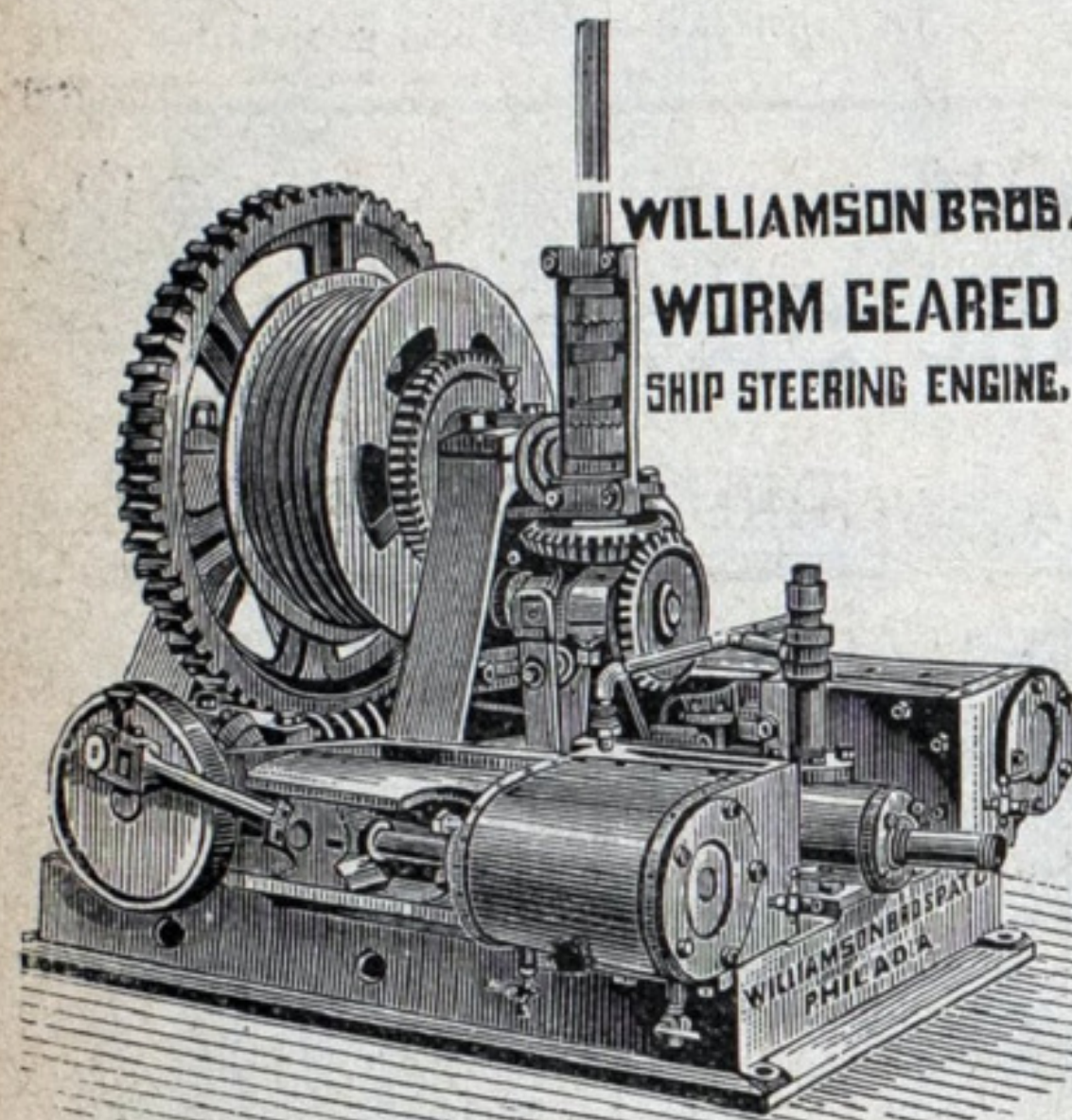
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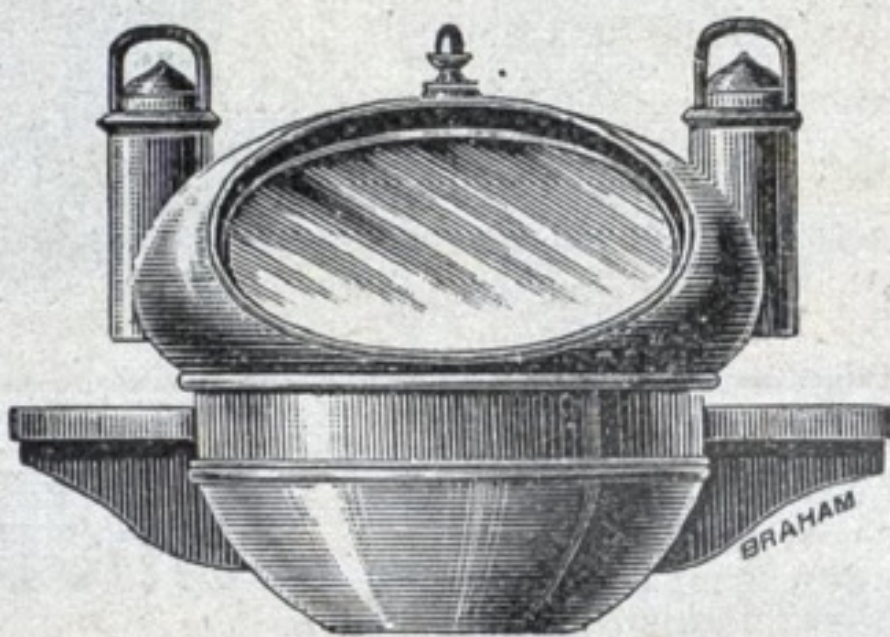
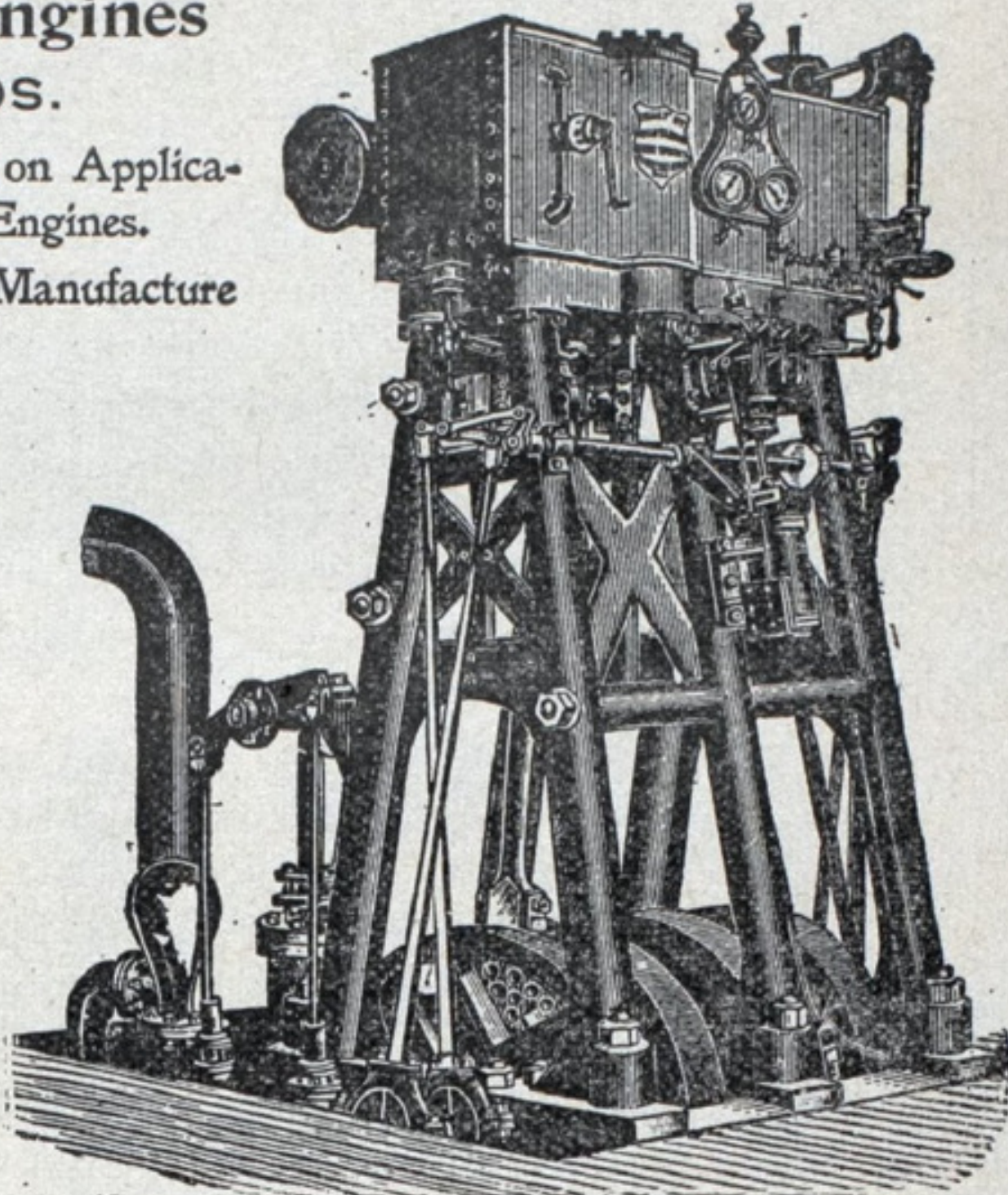
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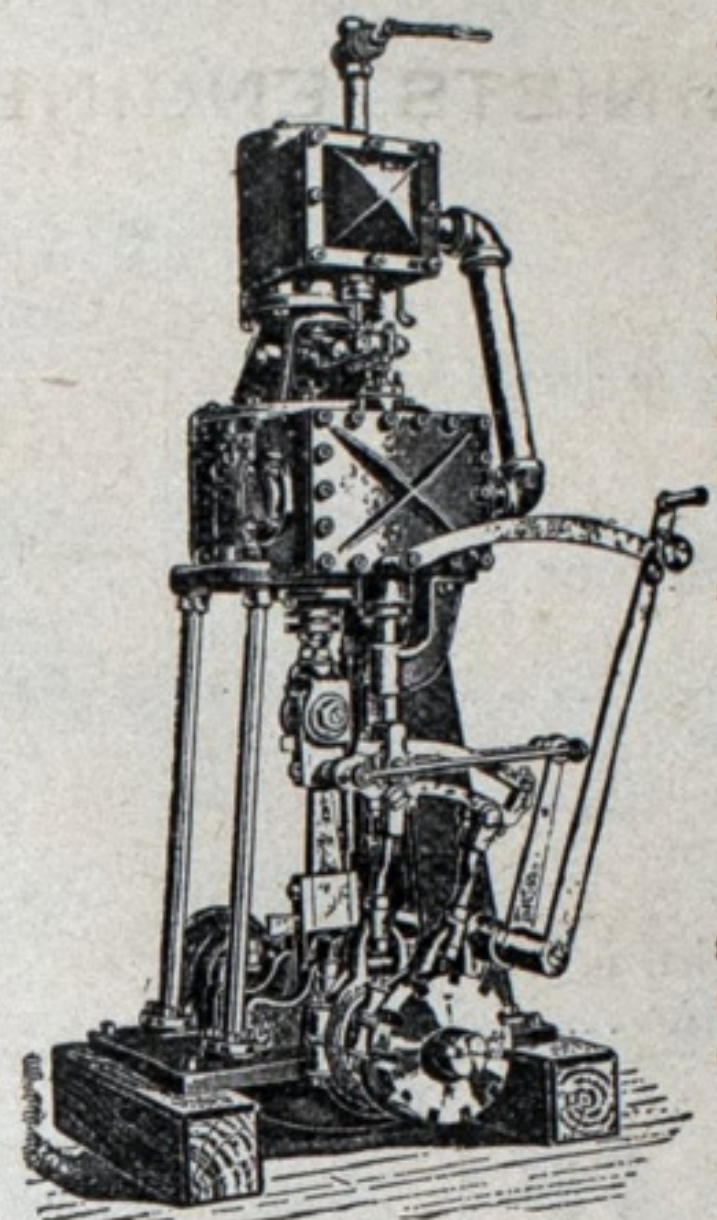
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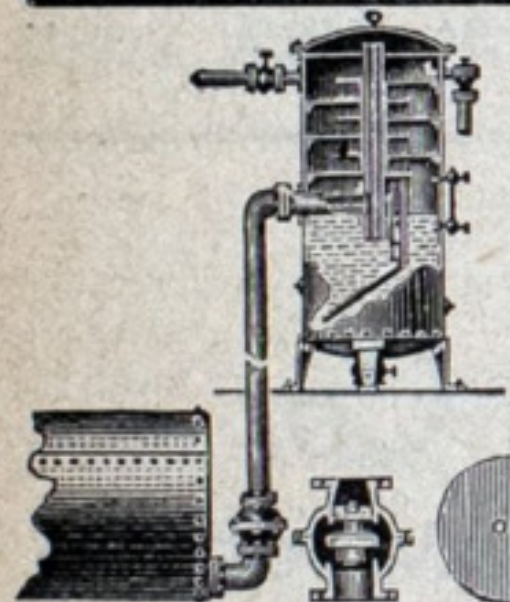
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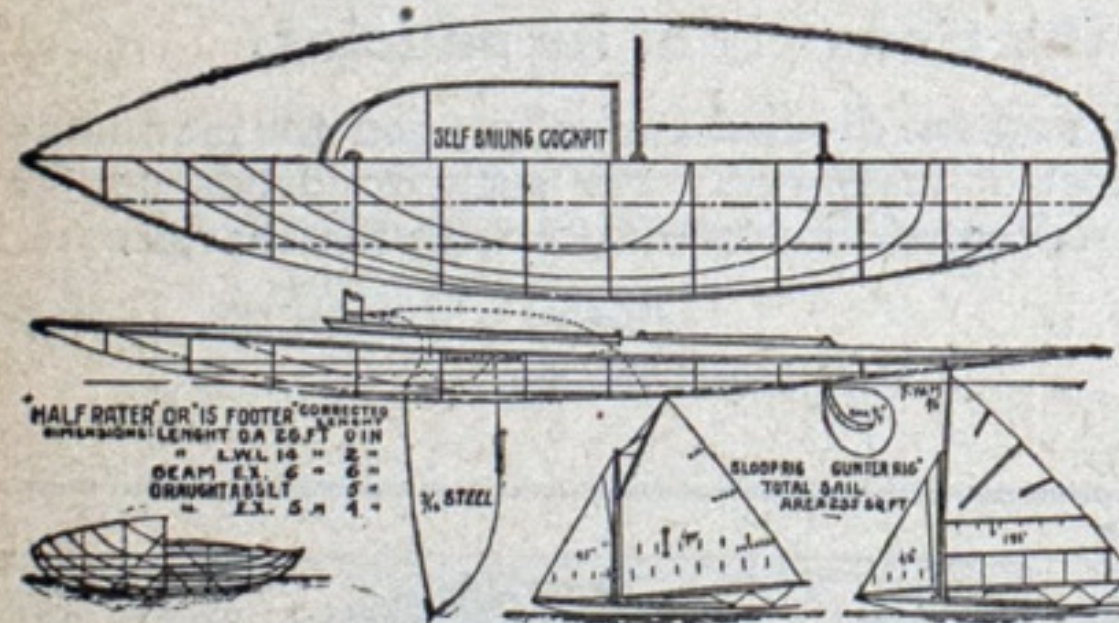
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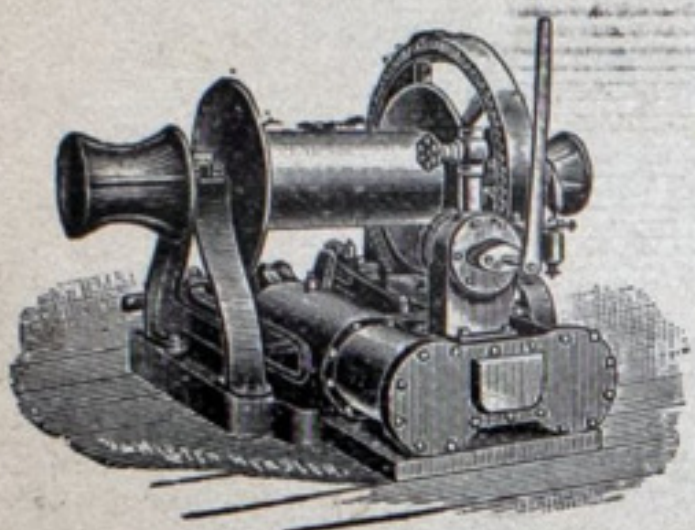
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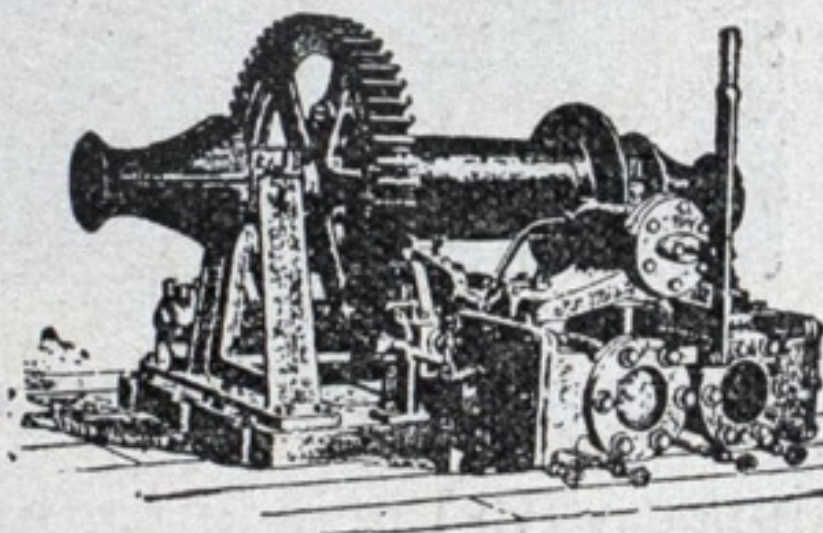
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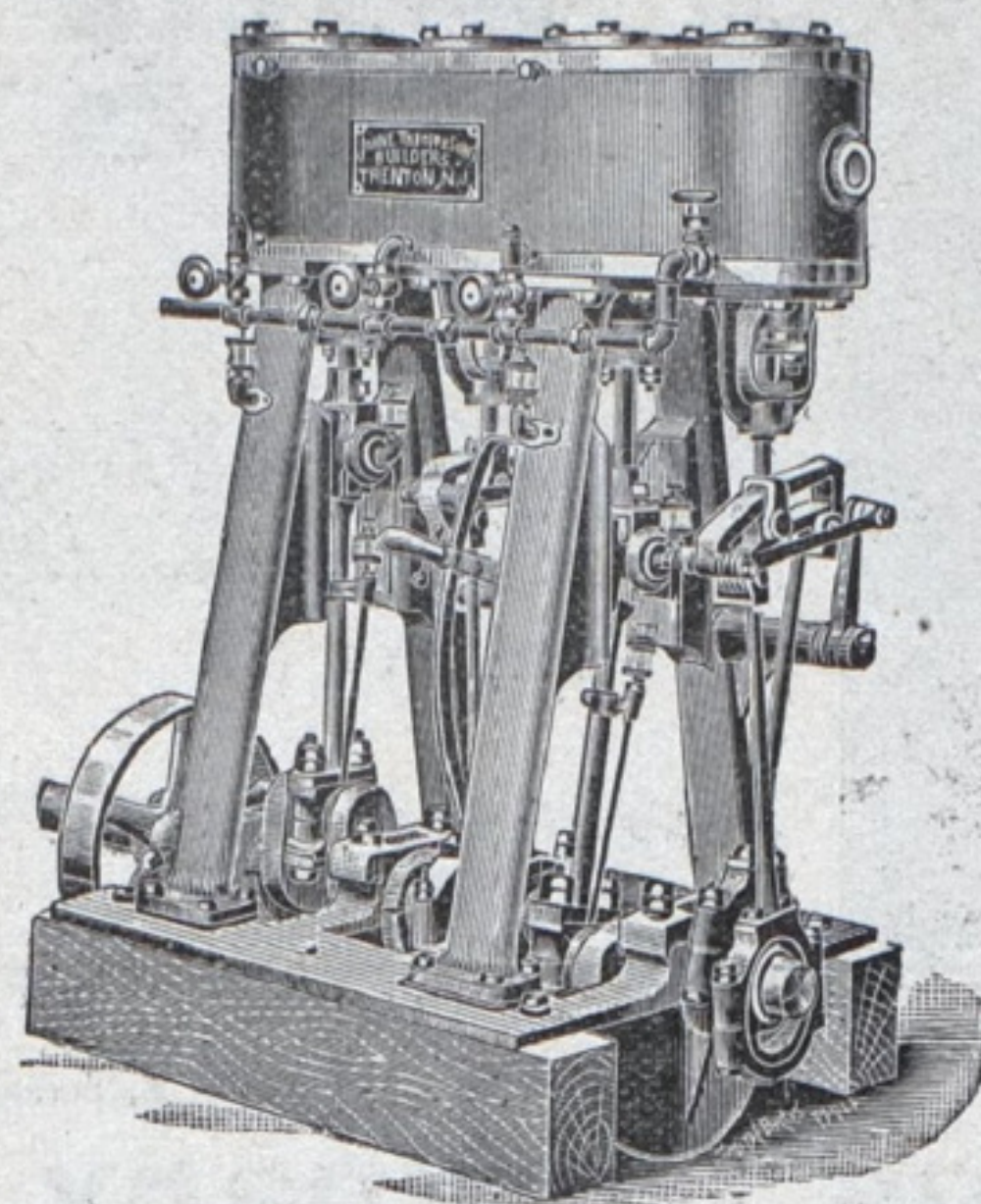
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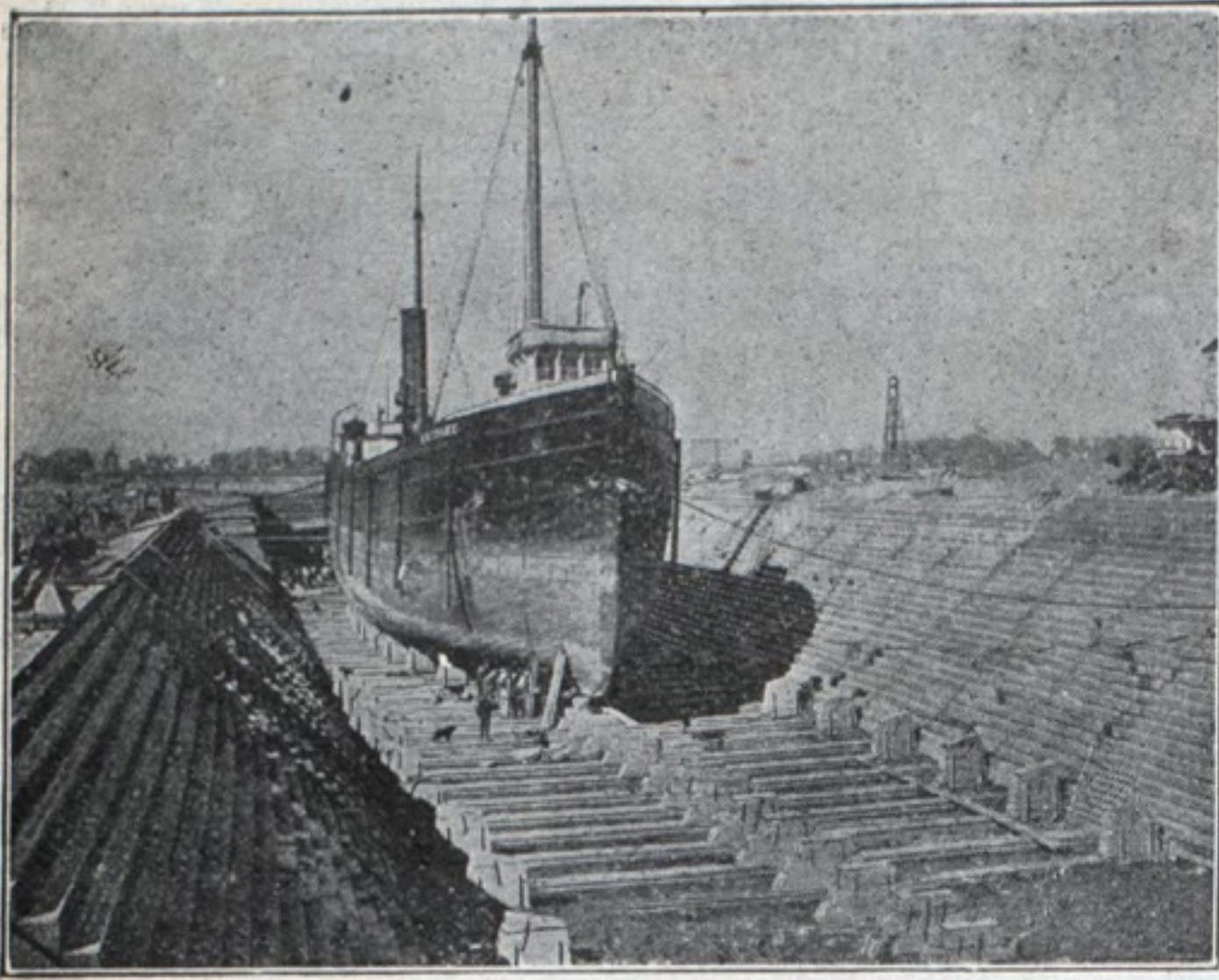
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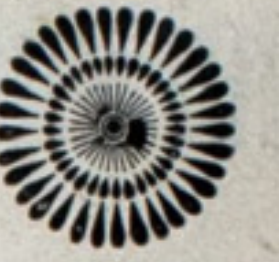
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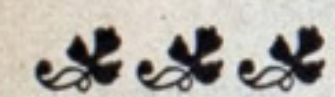
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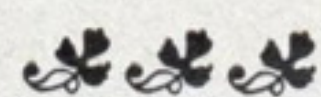
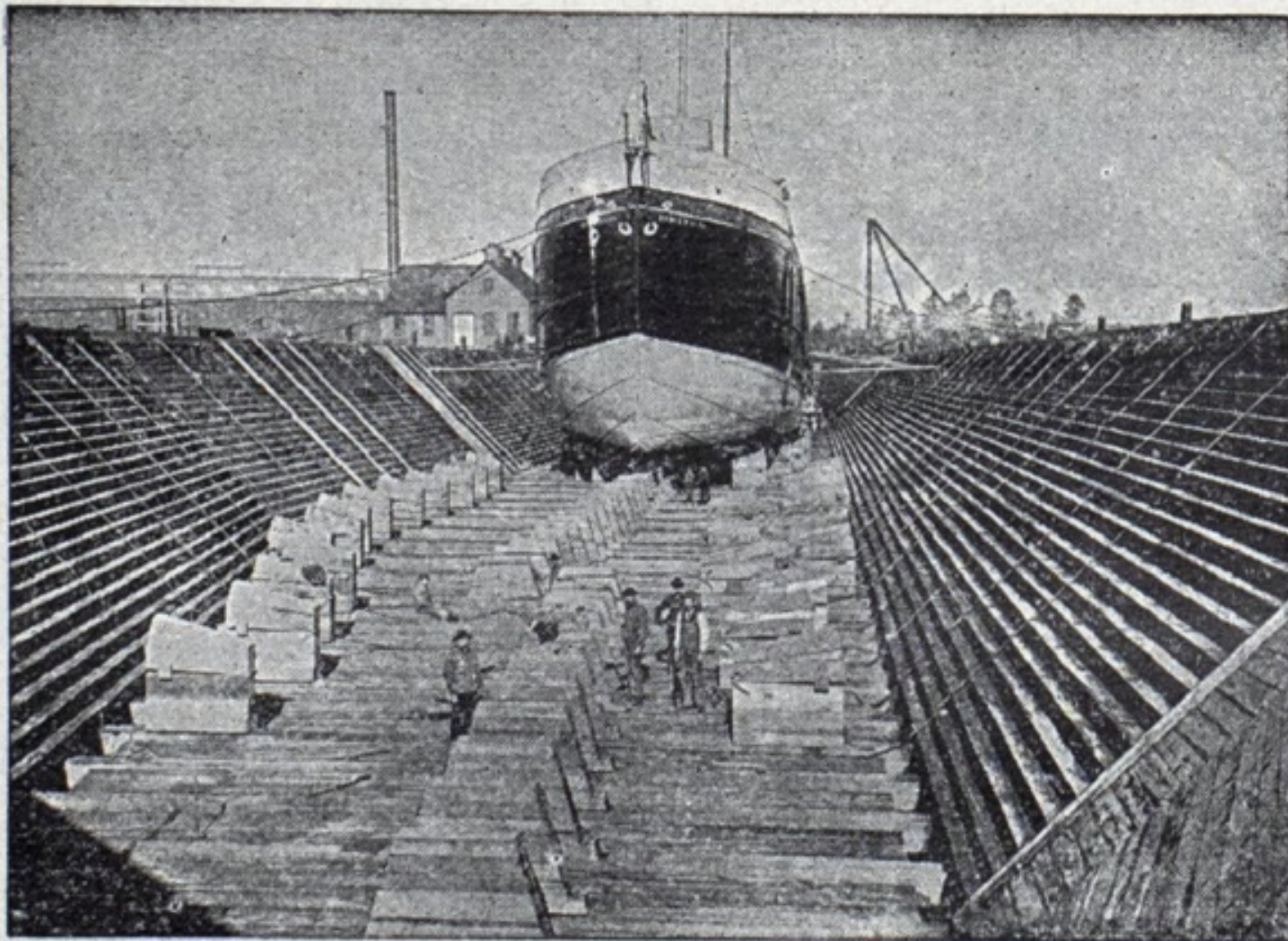
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Breadth, Bottom.....	52 "	Depth over Sills.....	18 "

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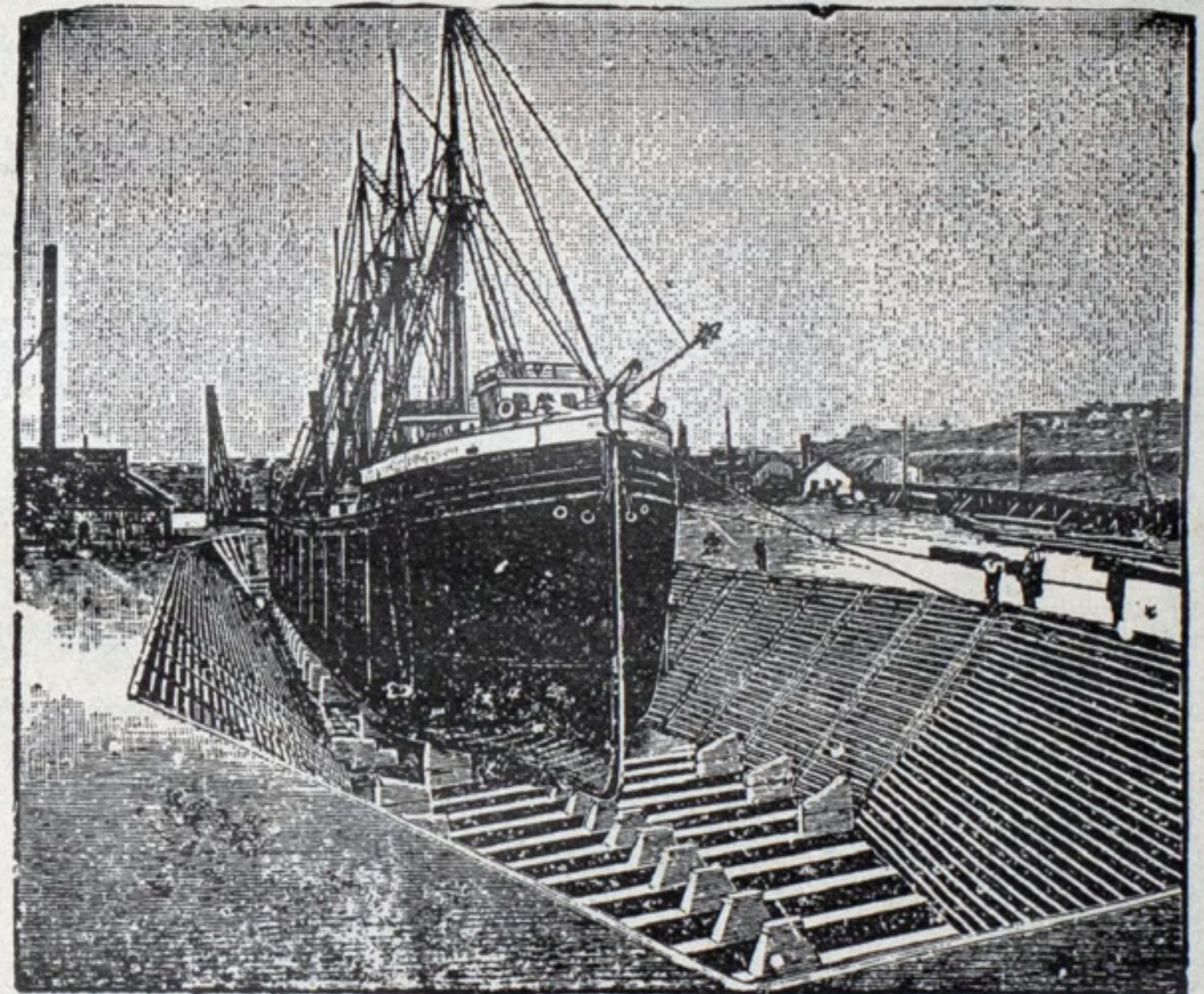
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